THE EFFECTIVENESS OF VIDATAK- EZ BOARD ON ANXIETY AND FRUSTRATION AMONG MECHANICALLY VENTILATED PATIENTS IN GANGA HOSPITAL, COIMBATORE

BY

301410251

DISSERTATION SUBMITTED TO THE TAMILNADU Dr. M.G.R MEDICAL UNIVERSITY, CHENNAI,

IN PARTIAL FULFILLMENT OF REQUIREMENT FOR

THE DEGREE OF

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CERTIFIED THAT THIS IS THE BONAFIDE WORK DONE

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CHENNAI

COLLEGE SEAL:

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Dr. A. ARVIN BABU, MSc., Ph.D.,
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DECLARATION

I hereby declare that the present dissertation titled **"Effectiveness of Vidatak EZ board on anxiety and frustration among mechanically ventilated patients in Ganga hospital, Coimbatore",** is an outcome of the original research work undertaken and carried out by me, under the guidance of research guide Dr. A. Arvin Babu, Ph.D., Principal, Cherraan's College of Nursing and the Clinical Specialty Guide Professor Mrs. Ramalakshmi, M.Sc., I also declare that the material of this has not found in any way, the basis for the award of any degree in this University.

301410251

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"Every good thing given and every perfect gift is from above, coming down from the Father of lights, with whom there is no variation or shifting shadow". (James 1: 17)

First and foremost, I would like to thank the supreme teacher of all: **God**. I know that I am here and that I am able to write all of this for a reason. I will do my best in never forgetting what a great fortune I have had in just being here, and that it comes with a lesson and a responsibility. I hope I am doing the work you have planned me to do.

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ABSTRACT

The reduction of level of anxiety and frustration among mechanically ventilated patients in Ganga hospital has an important role to play in enabling effectiveness of Vidatak EZ board as a nursing intervention. The objective of the study was to evaluate the effectiveness of Vidatak EZ board on reduction of frustration and anxiety level among mechanically ventilated patients. The research design was Quasi experimental design. Design adopted non-equivalent pre-test post-test design. The conceptual frame work for this study was based on modified Imogene Kings goal attainment theory. The study has been conducted in Ganga hospital at Coimbatore. Purposive sampling technique has been adopted to select the desired sample. The total sample size 40 and 20 in experimental group and 20 in control group. The data was collected through state trait anxiety inventory scale and self-structured frustration scale. The collected data were analyzed by using both descriptive and statistical methods. The obtained 't' value for anxiety and frustration 6.37 and 9.16. The findings of the study reviled that Vidatak EZ board helped to decrease level of anxiety and frustration among mechanically ventilated patients.

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ABBREVIATIONS	EXPLANATIONS
Fig	Figure
H	Hypothesis
n	Total Number of Samples
No	Number
%	Percentage
SD	Standard Deviation
MD	Mean Difference
P	Probability
ANOVA	Analysis of variance
SPSS	Statistical Package for Social Sciences

CHAPTER-I
INTRODUCTION

1.1 BACKGROUND OF THE STUDY

"If you just communicate you can get by, but if you communicate skillfully, you can work out miracles." - Jim Rohan

Communication is important to nursing practice since all nursing care involves some degree of communication. Communication is at the core of nursing practice. Communication is an essential component of effective care in hospital setting, especially in ICU where patients can experience altered communication abilities due to their critical illness. Patient's outcomes are influenced by patient's abilities to communicate effectively and participate in their care.

According to Department of Health (2012) "Communication is integral to the nurse-patient relationship and is one of the six fundamental values of nursing identified in the government's strategy to deliver high quality, compassionate care for patients".

According to WHO (2011) "How people use messages to generate meanings within and across various contexts, cultures, channels and media"

Donnelly and Neville (2008) stated that "Effective communication helps vulnerable patients to cope with and make better decisions about their care and treatment".

Patient communication is crucial. Because the time spent at a hospital is usually stressful for patients and their families, they often tend to get impatient and angry if they feel that they are not being treated well. It's up to the nurse to be able to bridge any communication gap that may exist between the institution and the patient. Good communication between nurses and patients is essential for the successful outcome of individualized nursing care of each patient. It also improves the quality of care provided to patients and additionally, it is considered and

inalienable right and a prerequisite for building a genuine and meaningful relationship between patients and nurses and other health professionals. A nurse who is good at communicating can also get a lot more information out of a patient, resulting in quicker diagnoses and more effective treatment plans.

The problem of communication during mechanical ventilation and patient's distress at being unable to speak are important to nurses and other health care providers, yet little is known about the impact of inability to speak on psychoemotional distress among critically ill patients treated with mechanical ventilation. Mechanically ventilated patients are unable to express their feelings and needs through verbal communication because the endotracheal tubes running through their vocal cords make speech impossible, contributing to the frustration and anxiety. As a result, the care giver is forced to interpret the patient's non verbal communication such as mouthing, gesticulating, nodding and writing which can be difficult for the critically ill patient.

Poor communication limits an accurate exchange of information between the nurse and patients and perhaps diminishes the probability of treatment. Poor communication may lead to higher rates of hospitalization, higher rates of drug complication, highest use of resource to provide care, lowest levels of satisfaction with care, increased of risk of delayed care, increased risk of malpractice, highest use of resources to provide care, increased failure to treat and prevent devastating disease states and death, increased length of hospital stay, alterations in communication including interference with transfer of information, reduced emotional support.

Patient outcomes are substantially dependent on their ability to participate in their care. Patients who are unable to establish or maintain effective communication with assistance or independently are consequently subjected to poorer outcomes. Patients have the right to be informed about the care they receive, make educated decisions about the care and have the right to be listened by their providers. Ineffective patient communication may lead to increased risk of no

adherence to medication, misreported abuse, decreased access to medical care, decreased use of medical care, increased diagnosis of psychopathology and the patients more likely to leave hospital against medical advice, asthmatics more likely to receive intubation are less likely to return for follow up appointments after emergency room visits.

Patients may become anxious when their needs are not met during periods of mechanical ventilation because of their inability to verbally communicate with family and health care providers. A cycle of confusion ensues, involving misunderstandings between nurses and patients during attempts to convey messages that are misinterpreted or misunderstood. Anxiety and frustration build and contribute to the negative emotions and feelings of dependency, dehumanization, and futility. Patients have described their inability to communicate during mechanical ventilation as frustrating, scary, horrible.

Most of the time Patient communication is compromised due to surgery, trauma or stroke and linguistic barriers. Although communication with patients receiving mechanical ventilation is challenging for patients, nursing staff, and patients' families, certain communication behaviors and methods alleviate these difficulties and reduce patients' distress. Such methods include lip reading, use of pen and paper, positive body language, friendly facial expression, eye contact and yes-no questions, clicking the tongue or using a bell or clicking device, and even touch. Other low-technology devices that may be helpful include word or picture charts, alphabet boards, and erasable boards.

But these Traditional nonverbal communication methods require energy and they are fatiguing and emotionally draining for patients and there is no standardization, greater chance for error solution. More advanced technological devices, such as communication aids that rely on computerized electronic voice output, are generally used on the basis of individual patient assessment and evaluation for longer term patients receiving mechanical ventilation. Through Evidence based patient communication board, patients can easily point to words, phrases and pictures designed in clinical research study will improve patient outcome.

Published case studies and other clinical literature have predominantly described the need to use communication boards and other assistive communication devices for patients receiving mechanical ventilation. These devices range from simple pencils and papers, to alphabet/ word/picture boards, to computer keyboards. Although many authors suggest a picture board for use with patients during mechanical ventilation, they rarely describe what the board consists of, what patients mostly ask for on the board, and whether the board is successful in helping patients.

Appel-Hardin (1984) was the first author to illustrate a sample communication board in the literature. The author suggested that the content of the board include alphabet letters, words describing basic needs (i.e., pain and thirst), pictures of body parts, and names of people (i.e., spouse, family member, and doctor). Publishing a sample communication board provided clinicians with the content and format of a board from the nurses' perspective. However, this published board was not tested for its ability to meet patient's communication needs.

Lawless (1975) described different types of boards that could be used to help patients communicate during mechanical ventilation: a magic slate board, magnetic plastic letters and board, an alphabet board, a picture board, and a simple writing board. The specific content and format of these boards were not described, nor were any of these boards tested to assess their effectiveness in facilitating communication.

Patak developed the EZ Board in 1999 and, since then, hassold more than 100,000 of them to nearly 1,000 hospitals nationwide as well as in Canada, England and Australia through his company, Vidatak, LLC (http://www.vidatak.com/). The EZ Board is available in 16 languages, among them Spanish, Chinese, Korean, Vietnamese and Tagalog. Non-English versions of the board contain English translations of foreign terms.

Vidatak EZ Board, a light, flexible communication board devised by Patak that is organized so that the patient can easily inform the caregiver of all of his other

conceivable needs. For example, the patient can communicate thirst, cold, hunger, anger or pain; wanting to sit up or exercise; wanting a pillow or ablanket; needing someone to clean his or her mouth or face, or simply wantingto say "thank you." All require no more effort on the patient's part thanmarking a box next to the appropriate selection with an attached wet-erase marker.

Best Nursing Practice for mechanically ventilated patients can achieve decreased length of ventilator days as well as decreased length of ICU stay by an average of 2.7 and 3.6 days, respectively. Multidisciplinary team collaboration that incorporates effective communication with the patient is necessary for achieving these stated outcomes. Picture and alphabet boards can be useful as well... one such tool is the EZ Board. Vidatak EZ Boards, the only evidence-based, patient designed communication boards available today shown to reduce patient frustration, shown to improve patient satisfaction.

1.2 NEED FOR THE STUDY

Communicating effectively with ventilator dependent patients is essential so that various basic physiological and psychological needs can be conveyed and decisions, wishes and desires about the plan of care and end of life decision making can be expressed. High tech alternative communication devices are available for more complex cases. It is important for nurses to assess communication needs; identify appropriate alternative communication strategies to promote effective communication with nonvocal patients.

Difficulties in communication in intensive care patients receiving mechanical ventilation are a source of stressful experiences and psychoemotional distress, including indications of depression, anxiety, fear and anger, frustration, panic, sleeping disorders, decreased self-esteem, loss of control, and, occasionally, resignation. The most common stressful experiences, in order, are being unable to speak, thirst, difficulty swallowing, and intubation, Evidence suggests that although critical care nurses are aware of the need for effective patient communication, such communication often does not occur.

Puntillo et al reported additional symptoms experienced by critical care patients as a result of poor communication are tiredness, restlessness, anxiety, sadness, fear, and confusion. The prevalence of distressing symptoms among these patients was high; thirst was moderately intense, and shortness of breath, fear, confusion, and pain were moderately stressful.

Happ et al found that intubated patients rated 40% of communication sessions with nurses as somewhat to extremely difficult and that more than one-third of communications about pain were unsuccessful.

Researchers have identified numerous barriers in nurses' communication with patients receiving mechanical ventilation, such as difficulty in lip reading, patients' inability to write, patients' personalities, lack of nurses' education on communication, increased workload, and nurses' perceived insecurities.

Reed (2008) surveyed nurses and patients regarding methods used to communicate. Pre-intervention assessments reported 60% of Cardiac patients were extremely frustrated with their inability to communicate and 75% of nurses perceived their methods and resources to be inadequate. Post intervention assessment reported 51% of patients preferred the EZ Board as their best method compared to other communication aids and basic methods, and 58% of nurses reported the EZ Board as the most beneficial method.

Annie (2007) performed an experimental control trial of 60 patients, randomized to use the Vidatak EZ Board or routine care in India. The results of this study demonstrated that 73% patients without the EZ Board found their communication process was inadequate; however, with the board, 80% found their communication was adequate. Without the EZ Board, 63% of patients reported being unsatisfied with their communication process; and with the board, 77% were satisfied. Of those who used the Vidatak EZ Board, 80% were satisfied with the board, 20% moderately satisfied and none reported unsatisfied. Nurses, however, reported 53% satisfaction, 30% moderately satisfied and 17% unsatisfied. Overall, the patients with the Vidatak EZ Board reported higher satisfaction with communication ($p<.001$) and this was correlated to their satisfaction with the Vidatak EZ Board ($p<.01$).

Johnson and Sexton (2007) interviewed (n=14) patients and identified 19 factors that caused distress for these patients. In this qualitative study, the inability to speak was identified by all participants as causing distress to some degree, from mild to extreme.

LanceÂ Patak, et al, (2004) conducted a descriptive study using qualitative and quantitative methods, a total of 29 critically ill patients, extubated within the last 72 hours. It was found that 62% of patients (n = 18) reported a high level of frustration in communicating their needs while being mechanically ventilated. Mechanically ventilated patients experience a high level of frustration when communicating their needs, and health care providers have a significant impact on the mechanically ventilated patient's experience.

Bergbom-Engberg and Haljamae (2003) conducted a retrospective study, interviewed 158 patients on their recall of experiences while being mechanically ventilated 2 to 48 months after their ICU experience. Approximately half of the subjects reported experiencing feelings of anxiety/fear, agony/panic, and insecurity, and found it distressing not to be able to communicate properly with the nurses and their relatives.

This study describes the level of frustration experienced by mechanically ventilated patients and ascertains the helpfulness of methods used by health care practitioners to meet the communication needs of the mechanically ventilated patient. I, the investigator of this study believe that this study will add to the body of knowledge regarding communication in mechanically ventilated patients by reporting the actual level of frustration these patients experience and exploring their perception of the methods used by the heath care practitioner during communication.

1.3 STATEMENT OF THE PROBLEM

Effectiveness of Vidatak EZ board on anxiety and frustration among mechanically ventilated patients in Ganga hospital, Coimbatore.

1.4 OBJECTIVES OF THE STUDY

- To assess the pretest and posttest level of anxiety and frustration among mechanically ventilated patients in both experimental and control group.
- To determine the effectiveness of Vidatak EZ board in reducing anxiety and frustration among mechanically ventilated patients in experimental group.
- To find out the association between posttest level of anxiety and frustration and the selected demographic variables of mechanically ventilated patients in experimental group.
- To find out the correlation between the posttest level of anxiety and frustration among mechanically ventilated patients in experimental group.

1.5 HYPOTHESIS

The study was attempted to examine the following hypothesis.

H_1 : There is a significant difference in the pre and post test level of anxiety among mechanically ventilated patients in experimental group and control group.

H_2 : There is a significant difference in the pre and post test level of frustration among mechanically ventilated patients in experimental and control group.

H_3 : There is a significant association between post test level of anxiety and the selected demographic variables of mechanically ventilated patients in experimental group.

H_4 : There is a significant association between the post test level of frustration and the selected demographic variables of mechanically ventilated patients in experimental group.

H_5 : There is a significant correlation between the post test level of anxiety and frustration among mechanically ventilated patients in experimental group.

1.6 OPERATIONAL DEFINITION

Assess

It refers to estimate the use of Vidatak EZ board in communication between the patient and the nurse.

Effectiveness

It refers to the degree to which something is successful in producing the desired result.

Vidatak EZ board

It refers to the product which include symbols and pictures, allows ICU personnel to obtain critical information from ICU patients on mechanical ventilation.

Anxiety

It is an uncomfortable feeling of nervousness or worry about unable to communicate. Which is measured by state trait anxiety scale.

Frustration

It refers to the feeling of upset or annoyed as a result of being unable to communicate verbally. Which is measured by self structured frustration scale.

Mechanical ventilation

It is a technique through which gas is moved toward and from the lungs through an external device connected directly to the patient.

Hospital

It refers to an institution providing medical and surgical treatment and nursing care for sick or injured people.

1.7 ASSUMPTIONS

- After extubation mechanically ventilated patients may lack effective verbal communication.
- Poor verbal communication is a barrier for effective nursing care.
- Often Nurses and care givers of mechanically ventilated patients will be unable to understand the needs and problems of such patients.
- Effective communication will reduce the anxiety and frustration among mechanically ventilated patients.
- Use of Vidatak EZ board will be helpful to establish a trusting relationship between the nurses and their patients.

1.8 LIMITATIONS

- The study is limited to a selected hospital.
- The study is limited to only extubated patients after mechanical ventilation.
- Vidatak EZ board only is used as a method of communication.
- Findings may not apply to intubated patients in other ICUs such as surgical and cardiac units.
- Non random selection of convenient sampling.
- Potential bias of repeated testing.

1.9 CONCEPTUAL FRAMEWORK BASED ON MODIFIED KING'S GOAL ATTAINMENT MODEL

Theoretical framework provides react description of variables suggesting ways or methods to conduct the study and guiding the interpretations, evaluation and integration of study finding (**Wook and Haber,**1994)

A concept is an abstract idea or normal image of phenomena or reality. Conceptualization is a process of forming idea which utilized and forms conceptual frame work for development of research design.

Conceptual framework used for the present study is based on Imogene King's Theory of Goal Attainment. This theory was first introduced in 1960s. From the title itself, the model focuses on the attainment of certain life goals. Imogene King's Theory of Goal Attainment direct nurses in the nurse-patient relationship, going hand-in-hand with their patients to meet the goals towards good health.

Individual

Humans communicate their thought's, actions, customs, and beliefs through language. In this study it refers to the Nurse and Client.

Environment

Environment is the background for human interactions. It is both external to, and internal to the individual.

Perception

A process of organizing interpreting and transforming information from data and memory that gives meaning to one's experience represents one's image of reality and influences one's behavior. The researcher perceived through the pre-test that the subjects are in need of communication to reduce the level of anxiety and frustration.

Judgment

Each member perceives the other and makes judgment for goal attainment. The researcher mobilizes the resources for the provision of Vidatak EZ board to reduce the level of anxiety and frustration.

Action

Action is defined as a sequence of behavior's involving mental and physical action. The sequence is first mental action to recognize the presenting condition, then physical action to begin activities related to those condition. Here anxiety and frustration is recognized and pre test was done to assess the level of anxiety and frustration.

Reaction

Reaction is included in the sequence of behavior's described in action. In this study it refers to the administration of Vidatak EZ communication board to the participants in experimental group and routine intervention for the participants in control group.

Interaction

It is defined as the observable behavior's of two or more individuals in mutual presence. Here it refers to the observable behaviors of Nurse and Client.

Transaction

It is defined as a process of interactions in which human beings communicate with the environment to achieve the goals that are values.

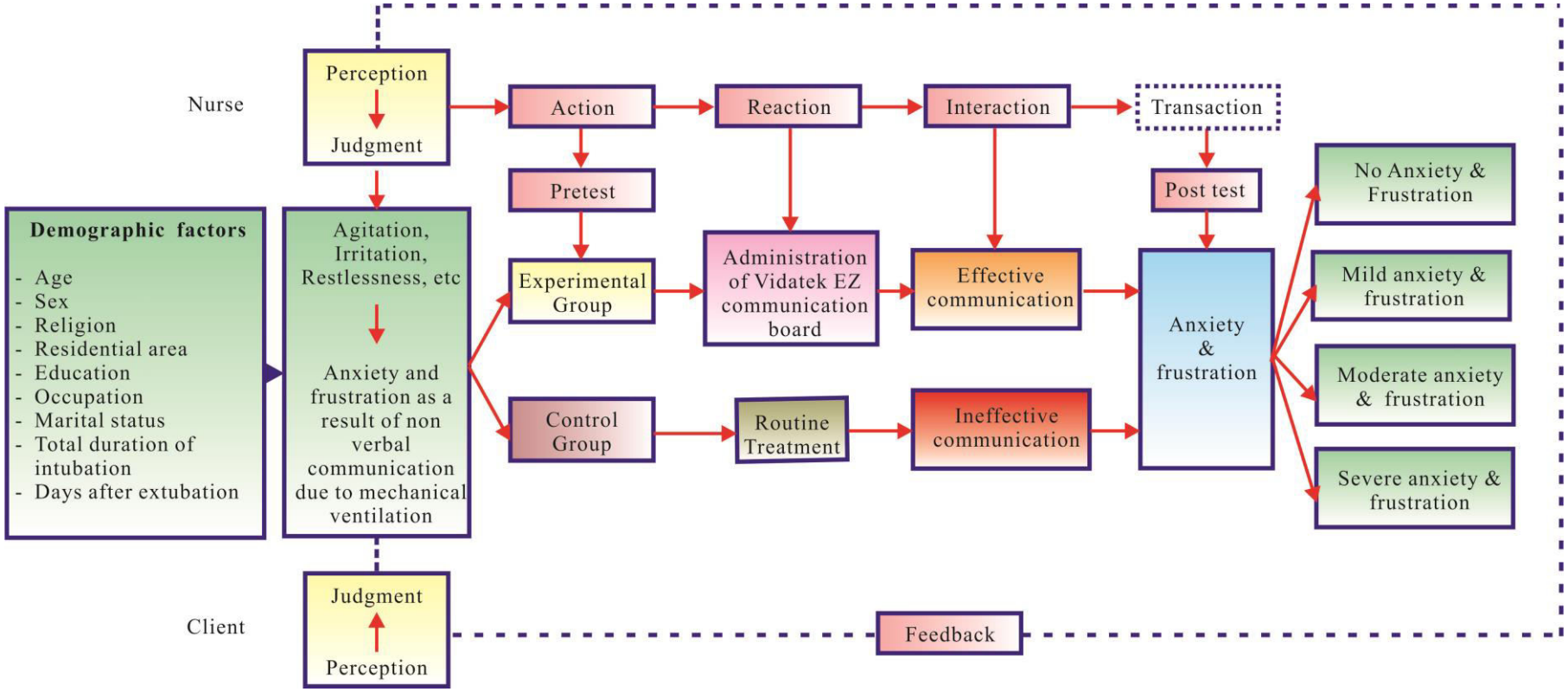


Fig 1: CONCEPTUAL FRAMEWORK BASED ON IMOGENE M.KING'S THEORY OF GOAL ATTAINMENT

CHAPTER- II
REVIEW OF LITERATURE

Review of literature is a systematic search of the published work to gain information about a research topic. It is a compilation that provides the ground work for the study.

A literature review is a "Critical analysis of a segment of a published body of knowledge through summary, classification and comparison of prior research studies, review of literature and theoretical articles."**– Wisconsin (2004)**

This chapter deals with the information collected in relation to the present study through published and unpublished materials, which provided the foundation to carry out this study.

In the present study the review of literature is organized and presented as follows.

- **Studies related to the consequences of ineffective communication among mechanically ventilated patients.**
- **Studies related to the effectiveness of communication board among mechanically ventilated patients.**
- **Studies related to anxiety among mechanically ventilated patients.**
- **Studies related to alternative methods of communication**

2.1 STUDIES RELATED TO THE CONSEQUENCES OF INEFFECTIVE COMMUNICATION AMONG MECHANICALLY VENTILATED PATIENTS

Parveen (2011) conducted a cross sectional study at Hadassah-Hebrew medical center, Jerusalem, Israel among 65 critically ill patients, extubated within the preceding 72 hours. Simple random sampling technique was used to select the samples and the data was collected by using a structured interview. Separate regression analyses of data on 3 psycho emotional outcomes were used for baseline variables, communication characteristics and stressful experiences. Study revealed that difficulty in communication was a positive predictor of patient's psychological distress. Fear and anger were also positively related to difficulty in communication. The study concluded that the patients aced psycho emotional distress because they cannot speak and communicate their needs and the nurses should be aware of patient's need to communicate. They recommended to implement more appropriate communication methods to reduce patient's distress.

Rabia Khalaila et al (2008) conducted a cross sectional study to examine the association between communication characteristics and psycho emotional distress among 65 patients selected by purposive sampling technique and treated with mechanical ventilation in a medical intensive care unit of selected hospital, Turkey. Data were collected by structured interview and analyzed by descriptive and inferential statistics. The study concluded that patients treated with mechanical ventilation experience a moderate to extreme level of psycho emotional distress because they cannot speak and communicate their needs and the stressful experiences associated with the endotracheal tube were positively related to feelings of anger.

Bergbom - Engberg (2008) conducted a retrospective study among 158 patients selected by simple random sampling on their recall of experiences while being mechanically ventilated 2 to 48 months after their ICU experience in an emergency and traffic hospital, Izmir, Turkey. The telephone interviews inquired about the influence of medical and nursing care factors on the patient’s experience

of discomfort and feelings of security and insecurity. Approximately half of the patients reported feelings of anxiety, fear, agony, panic and insecurity and found it distressing not to be able to communicate properly with the nurses and their relatives.

Jablonski (2006) conducted a cross sectional study among 12 participants who were intubated and mechanically ventilated after their intensive care unit experience in Civil Hospital, Karachi. All were initially orally or nasally intubated and 4 required a tracheostomy at a later time. Convenient sampling technique was used to select the samples. From the interviews, she identified patients experiencing frustration, anger, ear, and anxiety in their failure to communicate by mouthing words, using gestures, or writing. Patients reported that their attempts to communicate were interpreted by health care providers as apprehension and thus frequently resulted in the administration of sedatives or morphine. The author concluded that health care providers, especially nurses, are the communication gate keepers and ultimately control the type of experience that mechanically ventilated patients have.

Lans Patak et al (2004) conducted a descriptive study to explain the level of frustration experienced by 29 mechanically ventilated patients in Los angels, California and ascertains the helpfulness of methods used by health care practitioners to meet the communication needs of the mechanically ventilated patient. Data were collected by questioning and interview method. Data were analyzed by SPSS version 15. It was found that 62% of patients reported a high level of frustration in communicating their needs. There was no significant difference between the duration of intubation and the level of frustration. Patients who received anxiolytics had a lower level of frustration than those who did not receive anxiolytics. The study concluded that mechanically ventilated patients experience a high level of frustration when communicating their needs, and health care providers have a significant impact on the mechanically ventilated patient's experience.

2.2 STUDIES RELATED TO THE EFFECTIVENESS OF COMMUNICATION BOARD AMONG MECHANICALLY VENTILATED PATIENTS

Stovsky et al (2011) conducted a comparative study about 2 methods of communication used in 40 mechanically ventilated patients after cardiac surgery in government affiliated hospitals of Islam in the west of Iran. Samples were selected by simple random sampling technique and the data were collected by structured interview schedule. Data were analyzed by SPSS version 16. The experimental group 20 was introduced to a communication board before surgery and used it during the postoperative period while being mechanically ventilated. The communication board uses icons and pictures to represent basic needs (pain, fear, hot/cold, thirst, and bedpan). In contrast the control group 20 relied on standard care and the experience of the nurse. Patients in the experimental group demonstrated significantly increased satisfaction with communication using the board compared with the control group. More research is needed to better guide the use of co a communication board and to select its content.

Sudeep et al (2010) conducted a comparative study to identify the factors that influence nurse patient communication, to determine whether nurses were able to identify their patients needs and problems and to explore the attitudes of the nurses. Sample size was 30 and they were selected by convenient sampling technique in KEM hospital, Mumbai. Data were collected by interview method and analyzed by SPSS version 17. An experimental and control group compared picture board and standard care methods to determine effectiveness in communication. Most nurse patient communication was short and task related and occurred at a frequency dependent on the number of patient communications. Communication between nurses and patients was extremely brief and nurses identified difficulty in lip reading, frustration and not understanding non vocal messages and lack of training. Patients who used the communication board had significantly higher satisfaction with communication during their intubated period than did the control group. A picture board improved nurse patient communication among mechanically ventilated patients.

Gitanjali Zore (2010) conducted an experimental control trial of 60 patients, randomized to used the Vidatak EZ board or routine care in J.J. Hospital, Mumbai. Samples were selected by simple random sampling technique. Data were collected by structured interview schedule and analyzed by SPSS version 15. The results of this study demonstrated that 73% patients without the EZ board found their communication process was inadequate; however, with the board, 80% found their communication was adequate. Without the Board 63% of patients reported being unsatisfied with their communication process; and with the board, 77% were satisfied. Of those who used the Vidatak EZ board 80% were satisfied with the board and 20% moderately satisfied and none reported unsatisfied. Overall, the patients with the Vidatak EZ board reported higher satisfaction with communication ($p<.001$) and this was correlated to their satisfaction with the Vidatak EZ board.

Lisa Drago (2009) conducted a descriptive study was among 29 critically ill patients who were extubated within the past 72 hours in Cooper University Hospital, USA. Subjects participated in a 20-to 60- minute audiotaped interview consisting of questions about their perceived level of frustration when communicating with and without a communication board. Mean, median, frequency, percentage, Chi square test were used to analyze the data. Patients judged that their perceived level of frustration in communicating their needs would have been significantly lower ($P<0.001$) if a communication board had been offered (29.8%) than if not (75.8%). Most patients (69%; n=20) perceived that a communication board would have been helpful, and they also identified specific characteristics and content or a communication board. A communication board may be an effective intervention for decreasing patient's frustration and facilitating communication. There was no significant association between the demographic factors and frustration.

Sharon rose (2010) conducted a true experimental study to assess the effectiveness of communication board in meeting patient's needs and to compare the level of satisfaction, in the post operative Intensive Care Unit of Vijay Heart foundation Chennai in 2012. 400 intubated CABG clients were selected, by

randomization, a total of 200 subjects being allocated equally in both experimental and control groups using simple random sampling method. An observational check list was used for assessing the ability of intubated patients in meeting their needs. SPSS 15 was used to analyze the data. In experimental group, 192(96%) of the subjects were able to meet their needs adequately after using the communication board as compared to 7(3.5%) in control group. 155(77.5%) subjects of experimental group showed maximal satisfaction with their ability to communicate needs as compared to only 2(1%) in control group. 128 (64%) subjects of control group had minimal satisfaction with their ability to communicate their needs. The study concluded that the communication board was tested by the investigator and found appropriate for the 400 intubated CABG subjects.

Ragina Dias (2010) conducted a descriptive observational study to describe communication interactions, methods, and assistive techniques between nurses and non speaking critically ill patients in the intensive care unit, at School of Nursing, University of Pittsburgh, Pennsylvania, USA in 2011. Video recorded interactions between 10 randomly selected nurses and a convenience sample of 30 critically ill adults who were awake, responsive, and unable to speak because of respiratory tract intubation were rated. Although communication exchanges were generally (>70%) successful, more than one third (37.7%) of communications about pain were unsuccessful. Mean rate of completed communication exchange was 2.62 exchanges per minute. Patients rated 40% of the communication sessions with nurses as somewhat difficult to extremely difficult the study conclusion highlight specific areas for improvement in communication between nurses and nonspeaking patients in the intensive care unit, particularly in communication about pain and in the use of assistive communication strategies and communication materials.

Chung JW et al (2009) conducted an explorative study to identify the patient's experiences and preferences for augmentive and alternative methods for communication during mechanical ventilation in an acute care medical ICU at Hong Kong University. They interviewed 18 patients selected by purposive sampling technique and data were analyzed by SPSS version 17. Most of the patients (69%)

perceived that a communication board would have been helpful and also identify specific characteristics and content for a communication board. The study concluded that communication board may be effective intervention for decreasing patient's frustration and facilitating communication.

Sheriff khan (2009) conducted a pre experimental one group pre test and post test method to examine the nurses and patients regarding methods used to communicate was conducted. Samples were selected by convenient sampling technique and the sample size was 30. Data were analyzed by Mean, median, percentage, range, Chi square test. Pre intervention assessment reported 60% of mechanically ventilated patients were extremely frustrated with their inability to communicate and 75% of the nurses perceived their methods of resources to be inadequate. Post intervention assessment reported 51% of patients preferred the EZ communication board as the best method compared to other communication aids and basic methods. 58% of the nurses reported that the communication board was the most beneficial method of communication.

Johnson and Sexton (2007) conducted a qualitative study to assess the factors that caused distress for the patients who were on mechanical ventilation in the Intensive care unit of a selected hospital, North India. Samples size was 60 and data was collected by interview method. Descriptive and inferential statistics was used to analyze the data. In this qualitative study inability to speak was identified by all participants as causing distress to some degree from mild to extreme. In addition, other factors causing distress included pain/ discomfort rom the endotracheal tube, suctioning, inability to determine time and noise. The study concluded that these distressing factors can be alleviated by health care professionals by following evidence based practice like using communication boards for effective communication etc.

Rotondi, Armando J. (2006) conducted a prospective cohort study to assess the problems of 150 mechanically ventilated patients in Intensive care unit of KEM hospital Mumbai. Simples random sampling was used to select the samples. Observational check list was used to collect the data and the data were

analyzed by descriptive and inferential statistics. The study revealed that among two third of patients were strongly associated with experience of sleeplessness, fear, tense, loneliness as a result of impaired communication. The study concluded that it would be better if the patients were used alternative methods of communication like using picture boards, charts, etc. while on mechanical ventilation.

Negin Masoudi alavi (2007) conducted a study wasto examine the Vidatak EZ communication board in acute care clinical settings in London. Experimental trial of 60 patients were randomly chosen. Data were collected by questioning and interview method. Mean, SD, Chi square test and T test were used to analyze the data. Results demonstrated 73% patients without the EZ board, found their communication process, inadequate. However, with the board, 80% found their communication to be adequate without the board, 63% of the patients reported un satisfaction in the communication process and 77% were satisfied. Nurses reported 53% satisfaction, 30% moderately satisfied, 17% unsatisfied. The study concluded with the Vidatak EZ board reporting higher satisfaction with communication ($P<0.001$) and this was correlated to their satisfaction with the Vidatak EZ board.

2.3 STUDIES RELATED TO ANXIETY AMONG MECHANICALLY VENTILATED PATIENTS

Judith Ann Datt (2012) conducted an ethnographic study among the patients who are weaning from prolonged mechanical ventilation to describe characteristics of anxiety and agitation experienced by 30 mechanically ventilated patients. Samples were selected by purposive sampling technique. Data were collected by simple observation method for 3-65 days. Data were analyzed by using descriptive and inferential statistics. All patients exhibited agitation or described feeling anxious at least once during the study period. The incidence of anxiety or agitation events ranged from 1 to greater than 200 events per patient case. Of the 30 patients, 22 expressed feelings of fear and/or anxiety during direct observation, recorded clinician notes, or interviews. The 8 remaining patients who were less interactive with the environment, demonstrated agitation in the form of hyperactive psychomotor movement at least once during the study period. Of the 18 patients

able to participate in interviews, 12 indicated instances of feeling afraid or anxious. Patients did not use the term, “anxiety,” to describe their experience; rather, they used words linked conceptually to anxiety to describe their feelings, such as fear, panic, and frustration. Fear was included because of conceptual overlap with anxiety and linkages between fear, anxiety and agitation in the literature.

Linds Chlan (2011) conducted a randomized controlled trial among 57 mechanically ventilated patients to describe anxiety ratings for a subgroup of mechanically ventilated patients over the duration of enrollment in a multi-site clinical trial, to discern any pattern of change in anxiety ratings, to determine if anxiety decreases over time, and to explore the influence of sedative exposure on anxiety ratings. Visual analogue scale was used to measure anxiety for 30 days by using observation method. The findings from this study do suggest that anxiety does decrease over time for some patients receiving mechanical ventilator support, other patients do not readily adjust to the ventilator and/or the ICU environment and do not experience lessening anxiety over the course of treatment. On-going nursing assessment and appropriate, individualized interventions with patients receiving mechanical ventilator support needed in order to appropriately address anxiety symptom management.

Sharon McKinley (2009) conducted a descriptive study to assess the validity of the Faces Anxiety Scale, the frequency and severity of state anxiety and correlated of anxiety among 106 intensive care patients received mechanical ventilation. At the time of anxiety assessment, 89% were receiving mechanical ventilation. The correlation between patient’s self reports of anxiety on the Anxiety Faces Scale and the research assistant's assessments was 0.64($P<0.01$). Some anxiety was reported by 85% of patients(mean level 2.9, SD 1.2). Anxiety levels were lower in patients who had recently received sedatives or opioid’s but were not related to heart rate or blood pressure. Anxiety is common in these patients and is often moderate to sever.

CHAPTER- III
RESEARCH METHODOLOGY

Research methodology is a way to solve the problem systematically. It considers the logic behind the methods used in the context of the research study. Methodology is a significant part of any research which enables the researcher to organize the procedure of collecting reliable data for the problem under study or investigation. Thus research results are capable of being evaluated either by researcher themselves or by others.

This chapter deals with the methods adopted for the study and includes the description of research design, settings of the study, population, variables, sample size, sampling technique, criteria for sample selection, inclusion and exclusion criteria, development of the tool, collection of data, pilot study and plan for data analysis.

3.1 RESEARCH APPROACH

The selection of research approach is the basic procedure for the conduction of research enquiry. A research approach tells us so as to what data to be collected and how it should be analyzed. It also suggests possible conclusions to be drawn from the data. According to **Treece and Treece (1986),** the approach to research is the umbrella which covers the basic procedure for conducting the research.

Research approach is a systemic, controlled empirical and critical investigation of natural phenomena guided by theory and hypothesis about presumed relation among the phenomena. The research approach used for this study was experimental approach.

3.2 RESEARCH DESIGN

The research design refers to the structural framework for study implementation the design phase includes selection of the research design, Data collection methods, sampling framework, the data entry / analysis plan. It is the blue print for the study implementation that maximizes control over factors interfering with the true relationship among study variables. Both theoretical and design framework are critical to the study. (**Taibot 1995**)

The present study is a Quasi Experimental non randomized control group design in nature. The investigator proposed to compare the effectiveness of Vidatak EZ communication board among extubated patients after mechanical ventilation in Ganga hospital, Coimbatore.

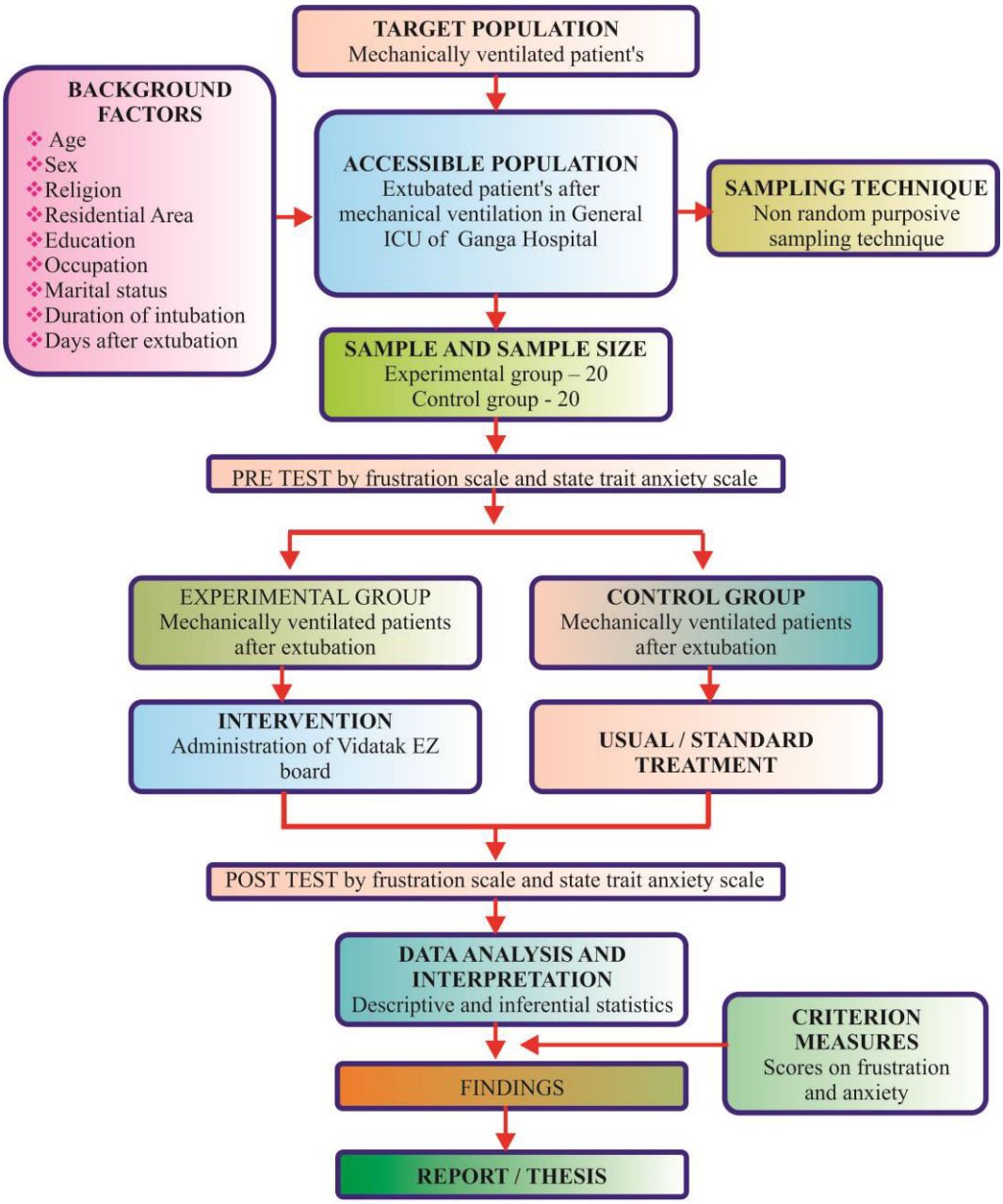


Fig 2: SCHEMATIC PRESENTATION OF RESEARCH DESIGN

RESEARCH DESIGN NOTATION

GROUP	PRE TEST	INTERVENTION	POST TEST
Experimental group	O_1	X_1	O_2
Control group	O_1	-	O_2

O_1 **:** Measuring the level of anxiety and frustration before the administration of Vidatak EZ communication board in experimental group.

O_1 **:** Measuring the level of anxiety and frustration before the administration of Vidatak EZ communication board in control group.

X_1 **:** Administration on Vidatak EZ communication board.

O_2: **:** Measuring the level of anxiety and frustration after the administration of Vidatak EZ communication board in experimental group.

O_2 **:** Measuring the level of anxiety and frustration in control group after the administration of Vidatak EZ communication board in experimental group.

3.3 VARIABLES

Variables are concepts at different levels of abstraction that are concisely defined to promote their measurement and manipulation within a study. The variables mainly included in this study are dependent variable and independent variable.

Dependent variable

The dependent variable is the variable that the researcher is interested in understanding, explaining and predicting. It is free to change over a range of different experimental treatments. The dependent variable is what we measure in the experiment and what is affected during the experiment. It depends on the independent variable.

In this study, the dependent variable was anxiety and frustration of the extubated patient's after mechanical ventilation.

Independent variable

The independent variable is assumed to cause or influence the dependent variable or outcome. The independent variable is manipulated in experimental research to observe its effect on the dependent variable. It is sometimes referred as the treatment variable.

In this study the independent variable was Vidatak EZ communication board.

Demographic variable

Demographic variables are the characteristics and attributes of the study subjects. It is used for the researcher to study the sample characteristics and to present them in research findings. Demographic variables included in this study were Age, Sex, Religion, Residential area, Education, Occupation, Marital status, Total duration of intubation, Days after extubation.

3.4 SETTING

According to **Polit and Hungler (2010)** the selection of setting is done on the basis of feasibility of conducting the study, availability of subjects and co-operation of the authorities, feasibility of time, money and the material.

The setting selected for the present study was Ganga Hospital which is very well known by everyone as Orthopedic specialty hospital. It is a 450 bedded multi-specialty hospital located nearby Coimbatore New Bus stand. 12 beds are there in ICU. On an average 4 patients will be on mechanical ventilation each day.

3.5 POPULATION

The term population refers to the aggregate or totality of all subjects or numbers that confirm to a set of specification.

Target population

It refers to the population under study and the population to which the researcher wants to generalize the research findings. The target population of this study were extubated patients after mechanical ventilation.

Accessible population

It refers to the part of the population that is available to the research. The accessible population in the study were the extubated patients after mechanical ventilation, got admitted in the General ICU of Ganga hospital, Coimbatore.

3.6 SAMPLE AND SAMPLE SIZE

Sample is a subset of the unit that comprise the population. Sample of the study consisted of 40 extubated patients after mechanical ventilation in the selected setting. Total samples were equally distributed in the experimental group (20) and in the control group (20).

Sample size is the number of elements of the population. The main purpose of the researcher is to obtain a sample enough to show significance yet to be expedient and economical at the same time. Sample size is determined by the type of study, nature of variables, level of significance, required type of data, feasibility to conduct the study and availability of the samples.

3.7 SAMPLING TECHNIQUE

Sampling is the act, process or technique of selecting a suitable sample or a representative part of a population for the purpose of determining parameters or characteristics of the entire population. Samples were selected by using purposive sampling technique.

3.8 SAMPLING CRITERIA

The study samples were selected by following the inclusion and exclusion criteria.

Inclusion criteria

- Extubated patients aged between 20 to 50 years and above.
- Extubated patients both male and female.
- Extubated patients in General ICU.
- Extubated patients could understand English and Tamil.
- Patients who are in between first day to fourth day of extubation.

Exclusion criteria:

- Extubated patients who are not willing to participate in the study.
- Extubated patients with significant sensory and perceptual disturbances such as blind and deaf patients.
- Extubated patients who have psychiatric problem, depression and who were illiterate.
- Patients developed complications like corneal ulcer and exposure keratitis as a result of intubation.
- Extubated patients who are on sedatives and anxiolytics.
- Extubated patients who have hyperopia and myopia.

3.9 DEVELOPMENT OF THE TOOL

Instrument is the device that a researcher uses to collect data. The instrument selected in a research should as far as possible be vehicle that would best obtaining data for drawing conclusions, which are pertinent to the data.

The investigator used Self structured frustration scale as a tool for the present study after exploring all sources of information like extensive library search, internet sources and consultation with experts. The experts were requested to check for the relevance, sequence and clarity of the tool.

3.10 DESCRIPTION OF TOOL

SECTION-A: Demographic data

This section consists of self structured questionnaire about the demographic details of the samples participated in the study. It collects the information regarding Age, Sex, Religion, Residential area, Education, Occupation, Marital status, Total duration of intubation, Days after extubation.

SECTION – B: Modified State trait anxiety scale

Modified State trait anxiety scale was prepared by Charles D Speilberger in 1977. It has two parts.

Part I has 10 questions regarding how the participants feel about themselves at present. It has four options like Not at all, Some what, Moderate, Very much. The scores given for the options Not at all – 1, Some what – 2, Moderate – 3, Very much -4.

Part II also has 10 questions regarding how the participants feel about themselves in general. It also has four options. The scores given are 1 for the option almost never, 2 for the option some times, 3 for the option often, 4 for the option almost always**.** The total score of the state trait anxiety scale was 80. The maximum score was 4 and the minimum score was 1.

SCORE	LEVEL OF ANXIETY
1-20	No Anxiety
21-40	Mild Anxiety
41 - 60	Moderate Anxiety
61 – 80	Severe Anxiety

SECTION – C: Frustration scale

The frustration scale was prepared by the investigator to assess the level of frustration among participants. Frustration was measured by simple observation method. The scale was attached at the end of appendices. The score was given as follows.

SCORING

Frustration was measured by scores. Each different response carries the following scores.

SCORE	LEVEL OF FRUSTRATION
4 - 5	Severe
3	Moderate
2	Mild
1	No frustration

Maximum score was 5 and the minimum score was 1.

VALIDITY OF THE TOOL

According to **Treece and Treece** Validity refers to an instrument or test actually testing what it supposes to be testing.

The investigator used Structured Questionnaire to collect the information regarding background factors of the participants, State trait anxiety scale and frustration scale was used to measure the anxiety and frustration. Four nursing experts and one psychiatrist were requested to check for relevance, sequence and clarity of the tool. After getting the opinion of the expert some modifications and rearrangements of few items done in the structured questionnaire regarding demographic variable.

RELIABILITY

Reliability of the research instrument is defined as the extent to which instrument yields the same result on repeated measures. It is concerned about accuracy, precision, equivalence and homogeneity.

The tool after validation was subjected to test for its reliability. In this study the reliability of the state trait anxiety scale and frustration scale for experimental group and control group was established by test retest method, among ten extubated patients after mechanical ventilation. 5 participants were placed in experimental group and another 5 were placed in control group. Reliability coefficient on frustration was found to be r=0.8 for anxiety and r=0.9 for frustration revealed that the tool was feasible and reliable for the main study.

3.11 PILOT STUDY

The pilot study is miniature trial run of the methodology planned for the majority research study, which facilitates to improve the methodology of the study and may identify the problems that may be faced by the researcher in actual larger project. It was conducted to find out the feasibility, practicability, validity and reliability of the study.

Permission was obtained from the authorities concerned to the hospital. The study was conducted in Ganga hospital which is situated nearby New Bus stand, Coimbatore for a period of one week in the month of May 2016. Total of ten samples were selected for the study by non random purposive sampling technique. These samples were not included in the main study. Demographic profiles were collected. The pilot study was carried out in a week for 5 participants in experimental group and 5 participants in control group who fulfilled the inclusion criteria. Data collected were tabulated and analyzed using descriptive and inferential statistical methods. The analysis of the pilot study revealed the feasibility and practicability of the designed methodology and the study.

3.12 DATA COLLECTION PROCEDURE

Phase I: Screening Phase

Totally 60 patients were screened with the help of In-charge nurse and other co nurses working in ICU. Among them 40 samples were selected to participate in the study according to the inclusion and exclusion criteria.

Phase II: Intervention phase

After a brief introduction about the study, consent was obtained from the participants and their family members. Participants were made comfortable. Adequate lighting and ventilation was provided. An individual basis demographic variable was collected by a self structured interview schedule. Pre test level of anxiety was collected by interview method by using state trait anxiety scale and frustration was measured by observation by using frustration scale. After the pretest assessment participants in experimental group were administered Vidatak EZ communication board and routine treatment was given to the participants in control group.

Phase III: Termination phase

After the scheduled intervention period for five days, post test level of frustration was assessed for the patients in experimental and control group. Participants were thanked and informal oral feedback was obtained from the participants. Vote of thanks was shared to all the ICU staff nurses and the doctors for their cooperation to conduct the study. Confidentiality was maintained throughout the study and the participant's information was restricted only to the investigator.

3.13 PLAN FOR DATA ANALYSIS

The data collected were edited, compiled and analyzed by using broth descriptive and inferential statistics on the basis of objectives and hypothesis of the study.

- Data on selected background factors of the participants in experimental and control group.
- Data on effectiveness of Vidatak EZ board among experimental group.
- Data on association between post test level of anxiety and frustration and the back ground factors of the participants in experimental group.
- Data on correlation between post test level of anxiety and frustration.

3.14 ETHICAL CONSIDERATION

Ethical considerations were taken into account for the purpose of the study to evaluate the effectiveness of Vidatak EZ communication board in reducing anxiety and frustration among extubated patients after mechanical ventilation. Ethical clearance was obtained to conduct the study and permission was obtained from the Medical Administrative officer of the hospital. Written informed consent were given by the participants and their family members. The purpose of the study was explained to the concerned duty nurse in the hospital and to the samples. Confidentiality and anonymity of the samples assured. No routine care was altered or withheld. No physical and psychological pain was caused. Thus the ethical issues were ensured in the study.

CHAPTER-IV
DATA ANALYSIS AND INTERPRETATION

Data analysis is the systematic organization and synthesis of research data and testing of research data and testing of research hypothesis by using the data. Interpretation is the adequate exposition of the facts presented in terms of purpose of the study.

This chapter deals with the analysis and interpretation of the data collected after the administration of Vidatak EZ board to extubated patients after mechanical ventilation in Ganga hospital, Coimbatore. The data collected were edited, tabulated, analyzed and interpreted and the findings obtained were presented in the form of tables and diagrams under the following sections.

THE DATA WERE PRESENTED AS FOLLOWS

Section I

Data on selected demographic variables of mechanically ventilated patient's in experimental and control group.

Section II

Data on pre and post test level of anxiety and frustration among mechanically ventilated patients in experimental and control group.

Section III

Data on effectiveness of Vidatak EZ board in reducing anxiety and frustration among mechanically ventilated patients in experimental group.

Section IV

Data on association between the post test level of anxiety and frustration and the selected demographic variables among mechanically ventilated patients in experimental group.

Section V

Data on correlation between the post test level of anxiety and frustration among mechanically ventilated patients in experimental group.

SECTION I

4.1 DATA ON SELECTED DEMOGRAPHIC VARIABLES OF MECHANICALLY VENTILATED PATIENT'S IN EXPERIMENTAL AND CONTROL GROUP

Table 1: Frequency and Percentage Distribution of Demographic Variables of Mechanically Ventilated Patient's in Experimental and Control Group

S. No	Demographic Variable	Experimental group (N=20)		Control group (N=20)	
		Frequency	Percentage	Frequency	Percentage
1.	**Age of the patient**				
	1. 21 – 30 years	2	10%	3	15%
	2. 31 – 40 years	3	15%	4	20%
	3. 41 – 50 years	9	45%	5	25%
	4. Above 50	6	30%	8	40%
2.	**Gender**				
	1. Male	11	55%	12	60%
	2. Female	9	45%	8	40%
3.	**Religion**				
	1. Hindu	11	55%	10	50%
	2. Muslim	4	20%	4	20%
	3. Christian	5	25%	6	30%
4.	**Residential area**				
	1. Urban	12	60%	10	50%
	2. Rural	8	40%	10	50%
5.	**Marital status**				
	1. Single	0	0%	1	5%
	2. Married	17	85%	14	70%
	3. Separated	0	0%	3	15%
	4. Divorcee	0	0%	0	0%
	5. Widow/Widower	3	15%	2	10%

S. No	Demographic Variable	Experimental group (N=20)		Control group (N=20)	
		Frequency	Percentage	Frequency	Percentage
6.	**Education**				
	1. High school	3	15%	2	10%
	2. Graduate	14	70%	17	85%
	3. Post graduate	3	15%	1	5%
	4. Doctorate	0	0%	0	0
7.	**Occupation**				
	1. Employed	17	85%	19	95%
	2. Unemployed	3	15%	1	5%
8.	**Total duration of intubation**				
	1. Less than One week	15	75%	18	90%
	2. One week	4	20%	2	10%
	3. More than one week	1	5%	0	0%
9.	**Days after extubation**				
	1. First day	2	10%	4	20%
	2. Second day	12	60%	14	70%
	3. Third day	4	20%	1	5%
	4. Fourth day	2	10%	1	5%

Regarding Age, Majority 9(45%) were belong to the age between 41-50 years, 6(30%) were above 50 years of age, 3(15%) belong to the age group between 31-40 years and only 2(10%) were in between 21-30 years in experimental group whereas in control group majority 8 (40%) were above 50 years of age, 5 (25%) were in between 41-50 years of age, 4(20%) were in between 31-40 years and 3(15%) were in between 21-30 years in control group.

Regarding Gender, in experimental group, Majority 11(55%) were males and 9(45%) were females whereas in control group 12(60%) were males and 8(40%) were females.

Regarding Religion, Majority 11(55%) were Hindus, 4(20%) were Muslims, 5(25%) were Christians in experimental group whereas in control group majority 10(50%) belong to Hindu religion, 4(20%) were Muslims, 6(30%) were Christians.

Regarding Residential area, Majority 12(60%) living in Urban area, 8(40%) were in rural area in experimental group whereas in control group all the participants were equally distributed in Urban and Rural area i.e. 10(50%).

Regarding Marital status, in experimental group no one was single, and no one was separated, no one was a Divorcee, Majority 17(85%) got married, 3(15%) were in the column of Widow/Widower whereas in control group Majority 14(70%) got married, 3(15%) were separated from their spouse, One (5%) was single, and 2(10%) were in the group Widow/Widower.

Regarding Education, Majority 14(70%) were Graduates, 3(15%) were equally distributed in the column of High school and Post graduates, None of them did doctorate in experimental group whereas in control group majority 17(85%)were graduates, 2(10%) had completed schooling, one (5%) was post graduate and no one had done doctorate.

Regarding Occupation, in experimental group, Majority 15(75%) were employed, and only 3(15%) were unemployed whereas in control group majority 19(95%) were employed, and 1(5%) were unemployed.

Regarding duration of intubation, in experimental group majority 15(75%) were less than one week and 4(20%) were one week, 1(5%) more than one week various in control group majority 18(90%) less than one week, 2(10%) were one week.

Regarding Days after extubation, Majority 12(60%) were on their second day of extubation, 4(20%) were on their third day of extubation, 2(10%) were equally distributed on the third and fourth day of extubation in experimental group whereas in control group majority 14(70%) were on their second day of extubation, 4(20%) were on their first day of extubation, one (5%) were equally distributed on the third and fourth day of extubation.

In experimental group, majority 9(45%) were in between the age 41-50 years, 11(55%) were males, 11(55%) were Hindus, 12(60%) were living in urban, 17(85%) were separated from their spouse, 14(70%) were Graduates, 17(85%) were employed, 15(75%) were intubated for less than one week, 12(60%) were on the second day of extubation.

In control group, majority 8(40%) were above 50 years of age, 12(60%) were males, 10(50%) belong Hindu religion, 10(50%) were equally distributed in urban and rural residential area, 14(70%) got married, 17(85%) were graduates, 19(95%) were employed, 18(90%) were intubated less than one week, 14(70%) were on their second day of extubation.

SECTION II

4.2 DATA ON PRE AND POST TEST LEVEL OF ANXIETY AND FRUSTRATION AMONG MECHANICALLY VENTILATED PATIENTS IN EXPERIMENTAL AND CONTROL GROUP

Table 2: Frequency and Percentage Distribution of Pre and Post Test Level of Anxiety Among Mechanically Ventilated Patients in Experimental and Control Group

Level of Anxiety	Pre test				Post test			
	Experimental Group		Control Group		Experimental Group		Control Group	
	Fre	Per	Fre	Per	Fre	Per	Fre	Per
No Anxiety	0	0	0	0	12	60%	0	0
Mild	3	15%	5	25%	7	35%	6	30%
Moderate	9	45%	8	40%	1	5%	6	30%
Severe	8	40%	7	35%	0	0	8	40%
Total	**20**	**100%**	**20**	**100%**	**20**	**100%**	**20**	**100%**

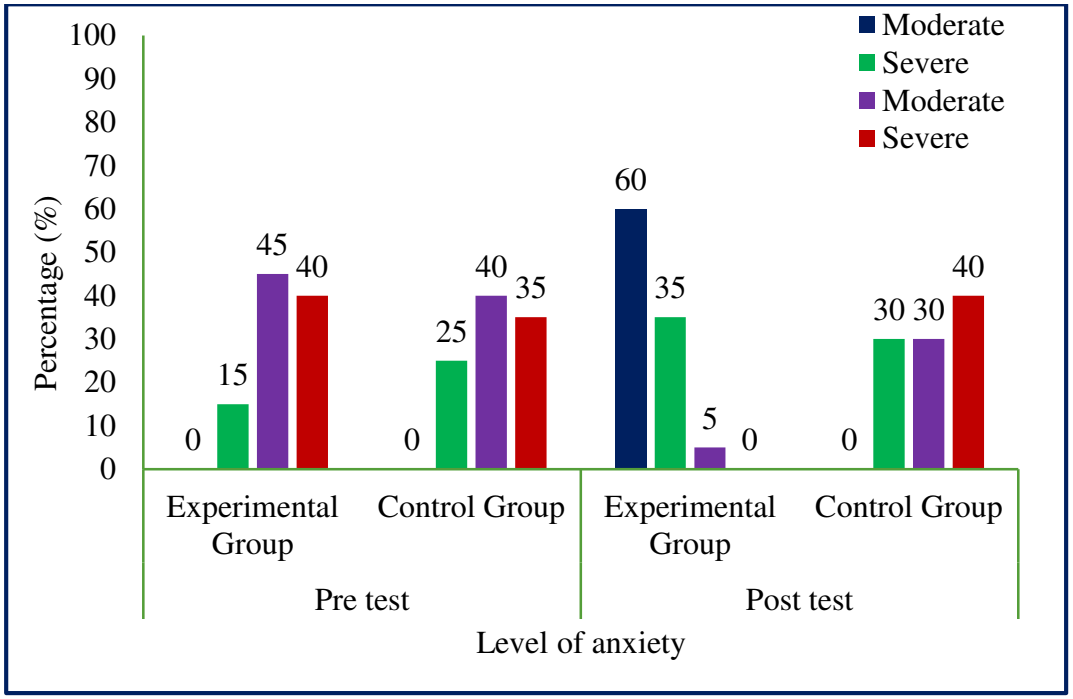
From the above table, in pre test majority 9(45%) of the participants had moderate anxiety, 8(40%) had severe anxiety, 3(15%) had mild anxiety whereas in post test no one had severe anxiety, only one (5%) had moderate anxiety 7(35%) had mild anxiety and 12(60%) had no anxiety in experimental group.

In control group, in pre test no one was in the column of no anxiety, majority 8(40%) of the participants had severe anxiety, 7(35%) had moderate anxiety, 5(25%) had mild anxiety whereas in post test, 6(30) were equally distributed in mild and moderate anxiety and majority 8(40%) had severe anxiety.

It was inferred that number of persons with anxiety in experimental group was moreover same like control group in pre test whereas in post test number of persons with anxiety was decreased in experimental group than the control group.

Hence Hypothesis 1 was accepted.

Fig 3: Frequency Distribution of Pre Test Level of Anxiety Among Mechanically Ventilated Patients in Experimental and Control Group



In experimental group, majority 9(45%) of the participants had moderate anxiety, 8(40%) had severe anxiety, 3(15%) had mild anxiety in pre test whereas in control group no one was in the column of no anxiety, majority of the participants 8(40%) had moderate anxiety, 7(35%) had severe anxiety, 5(25%) had mild anxiety.

Table 3: Frequency and Percentage Distribution of Pretest and Post Test Level of Frustration Among Mechanically Ventilated Patients in Experimental and Control Group

Level of Frustration	Pre test				Post test			
	Experimental Group		Control Group		Experimental Group		Control Group	
	Fre	Per	Fre	Per	Fre	Per	Fre	Per
No Frustration	1	5%	0	0	15	75%	0	0
Mild	2	10%	3	15%	5	25%	5	25%
Moderate	4	20%	5	25%	0	0	3	15%
Severe	13	65%	12	60%	0	0	12	60%
Total	**20**	**100%**	**20**	**100%**	**20**	**100%**	**20**	**100%**

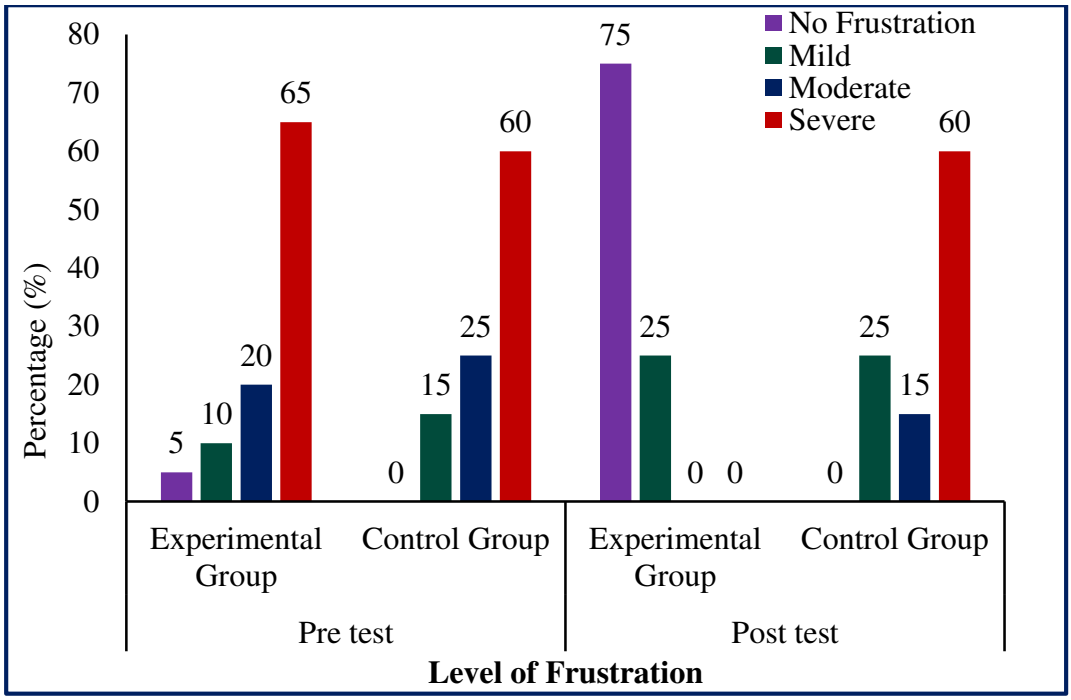
From the above table, in experimental group majority 13(65%) of the participants were frustrated severely, 4(20%) had moderate frustration, 2(10%) had mild frustration and only one (5%) had no frustration in pre test whereas in post test no one fell down in the category of severe and moderate frustration, very few 5 (25%) had mild frustration and remaining 15(75%) were very peaceful without any evidence of frustration.

In control group majority 12(60%) had severe frustration, 5(20%) had moderate frustration, 3(15%) had mild frustration and no one was in the category of no frustration in pre test whereas in post test also there was no significant change in the level of frustration among the participants. Majority 12(60%) had severe frustration, 3(15%) had moderate frustration, 5(25%) had mild frustration.

It was inferred that number of persons suffering from frustration in experimental group was same like in control group in pre test. But it remains unchanged in control group in post test while the number of frustrated patients were reduced in experimental group in post test.

Hence Hypothesis 2 was accepted.

Fig 4: Frequency Distribution of Pre and Posttest Level of Frustration Among Mechanically Ventilated Patients in Experimental Group



In experimental group majority 13(65%) of the participants were frustrated severely, 4(20%) had moderate frustration, 2(10%) had mild frustration and only one (5%) had no frustration in pre test whereas in post test no one fell down in the category of severe and moderate frustration, very few 5 (25%) had mild frustration and remaining 15(75%) were very peaceful without any evidence of frustration.

In control group majority 12(60%) had severe frustration, 5(25%) had moderate frustration, 3(15%) had mild frustration and no one was in the category of no frustration in pre test whereas in post test also there was no significant change in the level of frustration among the participants. Majority 12(60%) had severe frustration, 3(15%) had moderate frustration, 5(25%) had mild frustration.

SECTION III

4.3 DATA ON EFFECTIVENESS OF VIDATAK EZ BOARD ON ANXIETY AND FRUSTRAION IN EXPERIMENTAL AND CONTROL GROUP

Table 4: Mean, Range, SD, Mean difference regarding anxiety in experimental and control group in pre test and in post test

S. No	Group	Pre test			Post test			Mean difference	"t" value
		Mean	Range	SD	Mean	Range	SD		
1.	**Experimental group**	46.6	44 (65-21)	14	20.8	12 (13-25)	5.6	25.8	6.37 Df=39 (P<0.05) (S)
2.	**Control group**	47.65	42 (65-23)	16.47	44.95	43 (66-23)	16	2.70	

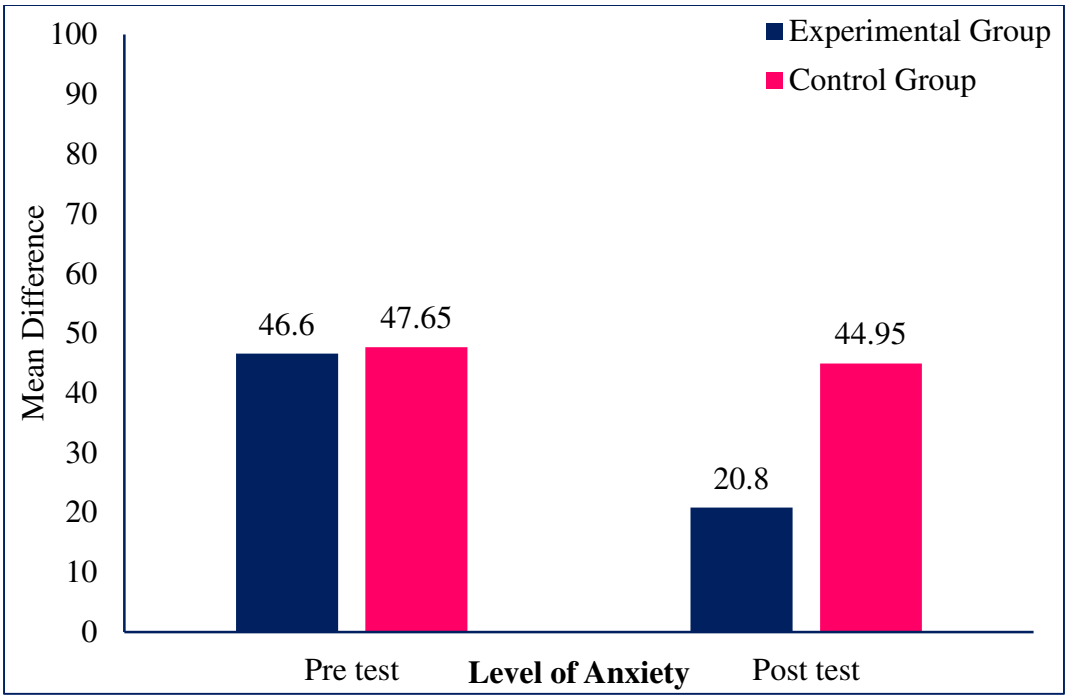
S - Significant

The obtained overall mean anxiety score was 46.6 (SD = 14), Range was 44 (65-21) in experimental group whereas in control group the obtained overall mean anxiety score was 47.65 (SD =16.47) in pre test. The obtained overall mean anxiety score in experimental group was 20.8 (SD=5.6) less than the overall mean anxiety score was 44.95(SD=43) in control group which indicated that anxiety level was high in the control group when compared to experimental group in post test. The obtained mean difference in experimental group was 25.8, it was 2.70 in control group and the 't' value was 6.37($P<0.05$).

It was inferred that there was no significant difference in the mean level of anxiety among the participants in experimental and control group before the administration of Vidatak EZ communication board. But there was a change in the mean level of anxiety among the participants in experimental group after the administration of Vidatak EZ board while the control group mean level of anxiety remains unchanged.

Hence Vidatak EZ board was effective and Hypothesis 1 was accepted.

Fig. 5: Mean difference between Pre and Post Test Level of Anxiety in Experimental Group and Control Group



The obtained overall mean anxiety score in pre test was 46.6 more than the obtained overall mean anxiety score 20.8 in post test, which meant that the administration of Vidatak EZ board was effective in reducing anxiety among the participants.

Table 5: Mean, SD, Range, Mean difference, unpaired "t" value regarding frustration among the participants in experimental and control group in pre test and in post test

S. No	Group	Pre test			Post test			Mean difference	"t" value
		Mean	Range	SD	Mean	Range	SD		
1.	Experimental group	3.7	4 (5-1)	1.14	1.25	1 (2-1)	0.512	2.45	9.16 Df = 39 P<0.05 S
2.	Control group	3.95	3 (5-2)	1.11	4	3 (5-2)	1.31	0.05	

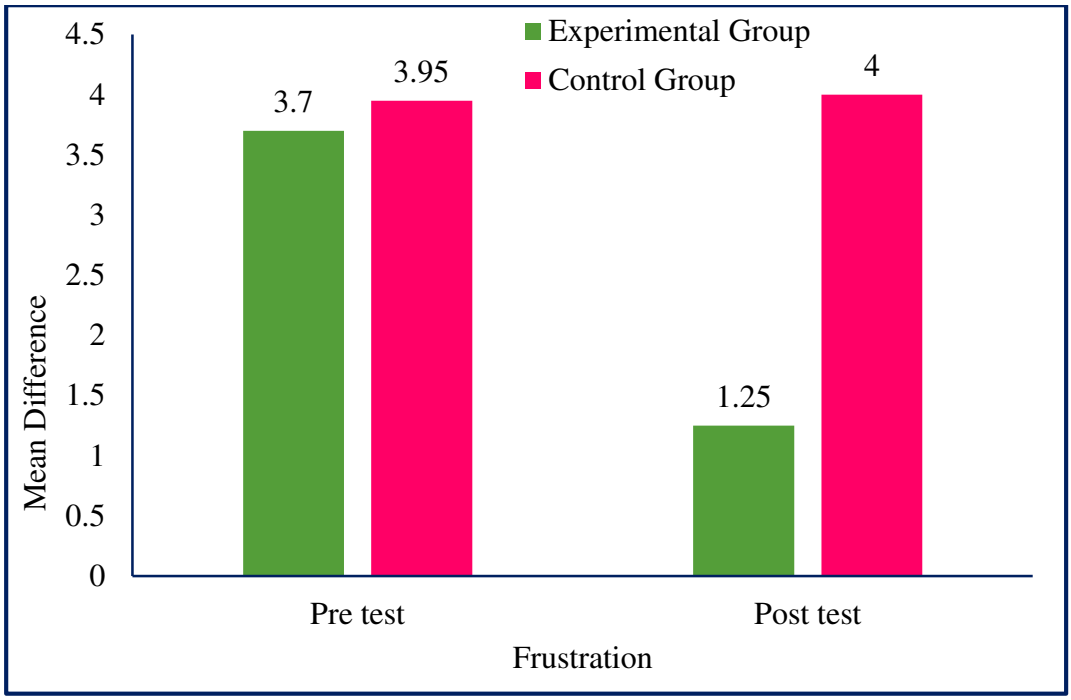
S - Significant

The obtained overall mean frustration score was 3.7 (SD = 1.14) in experimental group whereas in control group the obtained overall mean frustration score was 3.95 (SD =1.11). The obtained overall mean frustration score in experimental group was 1.25 (SD=0.512) less than the overall mean frustration score 4 (SD=1.31) in control group which indicated that frustration level was high in the control group when compared to experimental group. The obtained mean difference was 2.45 for experimental group and 0.05 for control group and the 't' value was 9.16 (P<0.05) significant.

It was clearly indicated that there was no significant difference in the mean level of frustration among the participants in experimental and control group before the administration of Vidatak EZ communication board in pre test whereas in post test there was a difference in the mean level of frustration.

Hence Hypothesis 2 was accepted.

Fig 6. : Mean Regarding Pre and Post Test Level of Frustration in Experimental Group and Control Group



The obtained overall mean frustration score in experimental group was 3.7 in pre test (SD=0.51) was more than the overall mean frustration score was 1.25(SD=0.51) in post test which indicated that frustration level was high before the administration of Vidatak EZ board.

SECTION – IV

4.4 DATA ON ASSOCIATION BETWEEN THE POST TEST LEVEL OF ANXIETY AND THEIR SELECTED DEMOGRAPHIC VARIABLES OF PARTICIPANTS IN EXPERIMENTAL GROUP

Table 6: Frequency, Percentage distribution and chi square association between pre test level of anxiety and their selected demographic variables of participants in experimental group

S.No	Demographic Variable	Experimental group (N=20)		χ^2
		Fre	Per	
1.	**Age of the patient**			
	1. 21 – 30 years	2	10%	χ^2 = 5.51
	2. 31 – 40 years	3	15%	Df = 9
	3. 41 – 50 years	9	45%	P >0.05
	4. Above 50	6	30%	NS
2.	**Gender**			χ^2 = 6.96
	1. Male	11	55%	Df = 3
	2. Female	9	45%	P >0.05
				NS
3.	**Religion**			χ^2 = 3.51
	1. Hindu	11	55%	Df = 6
	2. Muslim	4	20%	P >0.05
	3. Christian	5	25%	NS
4.	**Residential area**			χ^2 = 1.53
	1. Urban	12	60%	Df = 3
	2. Rural	8	40%	P >0.05
				NS
5.	**Marital status**			
	1. Single	0	0	χ^2 = 0.19
	2. Married	17	85%	Df = 12
	3. Separated	0	0%	P >0.05
	4. Divorcee	0	0%	NS
	5. Widow/Widower	3	15%	
6.	**Education**			
	1. High school	3	15%	χ^2 = 6.07
	2. Graduate	14	70%	Df = 9
	3. Post graduate	3	15%	P >0.05
	4. Doctorate	0	0%	NS

S.No	Demographic Variable	Experimental group (N=20)		χ^2
		Fre	Per	
7.	**Occupation**Employed 1. Unemployed	17 3	85% 15%	χ^2 = 1.58 Df = 3 P >0.05 NS
8.	**Total duration of intubation** 1. Less than One week 2. One week 3. More than one week	15 4 1	75% 20% 5%	χ^2 = 10.3 Df = 6 P >0.05 NS
9.	**Days after extubation** 1. First day 2. Second day 3. Third day 4. Fourth day	2 12 4 2	10% 60% 20% 10%	χ^2 = 15.44 Df = 9 P >0.05 NS

S – Significant, NS – Not Significant

The obtained chi square value regarding **Age of the patient** 5.51 was not significant.

The obtained chi square value regarding **Gender** 6.96 was not significant.

The obtained chi square value regarding **Religion** 3.51 was not significant.

The obtained chi square value regarding **Residential area** 1.53 was not significant.

The obtained chi square value regarding **Marital status** 0.19 was not significant.

The obtained chi square value regarding **Education** 6.07 was not significant.

The obtained chi square value regarding **Occupation** 1.58 was not significant.

The obtained chi square value regarding **Total duration of intubation** 10.3 was not significant.

The obtained chi square value regarding **Days after extubation**15.44 was not significant.

Hence there was no significant association between the post test level of anxiety and the selected demographic variables of the participants in experimental group.

Hence Hypothesis 3 was not accepted.

SECTION – IV: DATA ON ASSOCIATION BETWEEN POST TEST LEVEL OF FRUSTRAION AND THEIR SELECTED DEMOGRAPHIC VARIABLES OF PARTICIPANTS IN EXPERIMENTAL GROUP

Table 7: Frequency, percentage distribution and chi square association between post test score on frustration and their selected demographic variables of participants in experimental group

S.No	Demographic Variable	Experimental group (N=20)		χ^2
		Fre	Per	
1.	**Age of the patient**			
	1. 21 – 30 years	2	10%	χ^2 = 3.78
	2. 31 – 40 years	3	15%	Df = 9
	3. 41 – 50 years	9	45%	P > 0.05
	4. Above 50	6	30%	**NS**
2.	**Gender**			χ^2 = 7.264
	1. Male	11	55%	Df = 3
	2. Female	9	45%	P > 0.05
				NS
3.	**Religion**			χ^2 = 5.45
	1. Hindu	11	55%	Df = 6
	2. Muslim	4	20%	P > 0.05
	3. Christian	5	25%	**NS**
4.	**Residential area**			χ^2 = 4.62
	1. Urban	12	60%	Df = 3
	2. Rural	8	40%	P > 0.05
				NS
5.	**Marital status**			
	1. Single	0	0	
	2. Married	17	85%	χ^2 = 10.58
	3. Separated	0	0%	Df = 9
	4. Divorcee	0	0%	P >0.05
	5. Widow/Widower	3	15%	**NS**
6.	**Education**			
	1. High school	3	15%	χ^2 = 3.72
	2. Graduate	14	70%	Df = 9
	3. Post graduate	3	15%	P >0.05
	4. Doctorate	0	0%	**NS**

S.No	Demographic Variable	Experimental group (N=20)		χ^2
		Fre	Per	
7.	**Occupation** 1. Employed 2. Unemployed	 17 3	 85% 15%	χ^2 = 0.11 Df = 3 P >0.05 **NS**
8.	**Total duration of intubation** 1. Less than One week 2. One week 3. More than one week	 15 4 1	 75% 20% 5%	χ^2 = 13.79 Df = 6 P < 0.05 **S**
9.	**Days after extubation** 1. 1.First day 2. Second day 3. Third day 4. Fourth day	 2 12 4 2	 10% 60% 20% 10%	χ^2 = 1.32 Df = 9 P >0.05 **NS**

S – Significant, NS – Not Significant

The obtained chi square value regarding **Age of the patient** 3.78 was not significant.

The obtained chi square value regarding **Gender** 7.264 was not significant.

The obtained chi square value regarding **Religion** 5.45 was not significant.

The obtained chi square value regarding **Residential area** 4.62 was not significant.

The obtained chi square value regarding **Marital status** 10.58 was not significant.

The obtained chi square value regarding **Education** 3.72 was not significant.

The obtained chi square value regarding **Occupation** 0.11 was not significant.

The obtained chi square value regarding **Total duration of intubation** 13.79 was significant.

The obtained chi square value regarding **Days after extubation** 1.32 was not significant.

Therefore, it was inferred that none of the demographic variables were associated with post test level of frustration among the participants in experimental group except total duration of intubation.

Hence Hypothesis 4 was accepted.

SECTION – V

DATA ON CORRELATION BETWEEN THE POST TEST LEVEL OF ANXIETY AND FRUSTRATION

Table 8: Correlation between the post test level of anxiety and frustration

S. No	Participants	Anxiety		Frustration		"r" value
		Mean	SD	Mean	SD	
1.	**Experimental group**	20.8	5.6	1.25	0.51	r = 0.58
2.	**Control group**	44.95	16	4	1.31	

The correlation coefficient between the post test level of anxiety and frustration among the participants in experimental group was r = 0.58.

It was inferred that there was a positive correlation between the post test level of anxiety and frustration among the participants in experimental group.

Hence Hypothesis 5 was accepted.

CHAPTER-V

FINDINGS AND DISCUSSION

5.1 FINDINGS

The findings of the study were arranged based on objective of the study.

I. Findings on background factors of mechanically ventilated patients in experimental and control group.

In experimental group, majority 9(45%) were in between the age 41-50 years, 11(55%) were males, 11(55%) were Hindus, 12(60%) were living in urban, 17(85%) were separated from their spouse, 14(70%) were Graduates, 17(85%) were employed, 15(75%) were intubated for less than one week, 12(60%) were on the second day of extubation.

In control group, majority 8(40%) were above 50 years of age, 12(60%) were males, 10(50%) belong Hindu religion, 10(50%) were equally distributed in urban and rural residential area, 14(70%) got married, 17(85%) were graduates, 19(95%) were employed, 18(90%) were intubated less than one week, 14(70%) were on their second day of extubation.

II. Findings on pre and post test level of anxiety and frustration among mechanically ventilated patients in experimental group and control group.

Regarding anxiety, In pre test majority 9(45%) of the participants had moderate anxiety, 8(40%) had severe anxiety, 3(15%) had mild anxiety whereas in post test no one had severe anxiety, only one (5%) had moderate anxiety 7(35%) had mild anxiety and 12(60%) had no anxiety in experimental group.

In control group, in pre test no one was in the column of no anxiety, majority 8(40%) of the participants had severe anxiety, 7(35%) had moderate anxiety, 5(25%) had mild anxiety whereas in post test, 6(30) were equally distributed in mild and moderate anxiety and majority 8(40%) had severe anxiety.

Regarding frustration, in experimental group majority 13(65%) of the participants were frustrated severely, 4(20%) had moderate frustration, 2(10%) had mild frustration and only one (5%) had no frustration in pre test whereas in post test no one fell down in the category of severe and moderate frustration, very few 5 (25%) had mild frustration and remaining 15(75%) were very peaceful without any evidence of frustration.

In control group majority 12(60%) had severe frustration, 5(20%) had moderate frustration, 3(15%) had mild frustration and no one was in the category of no frustration in pre test whereas in post test also there was no significant change in the level of frustration among the participants. Majority 12(60%) had severe frustration, 3(15%) had moderate frustration, 5(25%) had mild frustration.

Hence Hypothesis 1 & 2 was accepted.

III. Findings on effectiveness of Vidatak EZ board on anxiety and frustration among mechanically ventilated patients in experimental group.

The obtained overall mean anxiety score was 46.6 (SD = 14), Range was 44 (65-21) in experimental group whereas in control group the obtained overall mean anxiety score was 47.65 (SD =16.47) in pre test. The obtained overall mean anxiety score in experimental group was 20.8 (SD=5.6) less than the overall mean anxiety score was 44.95(SD=43) in control group which indicated that anxiety level was high in the control group when compared to experimental group in post test. The obtained mean difference in experimental group was 25.8, it was 2.70 in control group and the 't' value was 6.37($P<0.05$).

The obtained overall mean frustration score was 3.7 (SD = 1.14) in experimental group whereas in control group the obtained overall mean frustration score was 3.95 (SD =1.11). The obtained overall mean frustration score in experimental group was 1.25 (SD=0.512) less than the overall mean frustration score 4 (SD=1.31) in control group which indicated that frustration level was high

in the control group when compared to experimental group. The obtained mean difference was 2.45 for experimental group and 0.05 for control group and the 't' value was 9.16 ($P<0.05$) significant.

Hence Hypothesis 1 & 2 was accepted.

IV. Findings regarding the association between the post test level of anxiety and frustration and the selected demographic variables in experimental group.

Regarding anxiety, there was no significant association between the post test level of anxiety and the selected demographic variables of the participants in experimental group.

Hence Hypothesis 3 was not accepted.

Regarding frustration, none of the demographic variables were associated with post test level of frustration among the participants in experimental group except total duration of intubation.

Hence Hypothesis 4 was accepted.

V. Findings regarding the correlation between the post test level of anxiety and frustration among the participants in experimental group.

The correlation coefficient between the post test level of anxiety and frustration among the participants in experimental group was $r = 0.58$.

It was inferred that there was a positive correlation between the post test level of anxiety and frustration among the participants in experimental group.

Hence Hypothesis 5 was accepted.

5.2 DISCUSSION

The purpose of the study was to assess the effectiveness of Vidatak EZ board on anxiety and frustration among mechanically ventilated patients.

The results of the study were discussed based on objectives of the study.

Objective 1: To assess the pre test and post test level of anxiety and frustration among mechanically ventilated patients in both experimental and control group.

Regarding anxiety, in pre test majority 9(45%) of the participants had moderate anxiety, 8(40%) had severe anxiety, 3(15%) had mild anxiety whereas in post test no one had severe anxiety, only one (5%) had moderate anxiety 7(35%) had mild anxiety and 12(60%) had no anxiety in experimental group.

In control group, in pre test no one was in the column of no anxiety, majority 8(40%) of the participants had severe anxiety, 7(35%) had moderate anxiety, 5(25%) had mild anxiety whereas in post test, 6(30) were equally distributed in mild and moderate anxiety and majority 8(40%) had severe anxiety.

Regarding frustration, in experimental group majority 13(65%) of the participants were frustrated severely, 4(20%) had moderate frustration, 2(10%) had mild frustration and only one (5%) had no frustration in pre test whereas in post test no one fell down in the category of severe and moderate frustration, very few 5 (25%) had mild frustration and remaining 15(75%) were very peaceful without any evidence of frustration.

In control group majority 12(60%) had severe frustration, 5(20%) had moderate frustration, 3(15%) had mild frustration and no one was in the category of no frustration in pre test whereas in post test also there was no significant change in the level of frustration among the participants. Majority 12(60%) had severe frustration, 3(15%) had moderate frustration, 5(25%) had mild frustration.

Objective 2: To determine the effectiveness of Vidatak EZ board in reducing anxiety and frustration among mechanically ventilated patients in experimental group.

Regarding anxiety, the obtained overall mean anxiety score was 46.6 (SD = 14), Range was 44 (65-21) in experimental group whereas in control group the obtained overall mean anxiety score was 47.65 (SD =16.47) and the obtained mean difference was 1.05 in pre test.

The obtained overall mean anxiety score in experimental group was 20.8 (SD=5.6) less than the overall mean anxiety score was 44.95(SD=43) in control group in post test and The obtained mean difference was 24.15 and the 't' value was 6.37($P<0.05$).

Regarding frustration, the obtained overall mean frustration score was 3.7 (SD = 1.14) in experimental group whereas in control group the obtained overall mean frustration score was 3.95 (SD =1.11) and the obtained mean difference was 0.25.

The obtained overall mean frustration score in experimental group was 1.25 (SD=0.512) less than the overall mean frustration score 4 (SD=1.31) in control group which indicated that frustration level was high in the control group when compared to experimental group. The obtained mean difference was 2.75 and the 't' value was 9.16 ($P<0.05$).

Objective 3: To find out the association between post test level of anxiety and frustration and the selected demographic variables of mechanically ventilated patients in experimental group.

Regarding anxiety, there was no significant association between the post test level of anxiety and the selected demographic variables of the participants in experimental group.

Regarding frustration, none of the demographic variables were associated with post test level of frustration among the participants in experimental group except total duration of intubation.

Objective 4: To find out the correlation between the post test level of anxiety and frustration among mechanically ventilated patients in experimental group.

The correlation coefficient between the post test level of anxiety and frustration among the participants in experimental group was r = 0.58.

It was inferred that there was a positive correlation between the post test level of anxiety and frustration among the participants in experimental group.

CHAPTER-VI

SUMMARY, IMPLICATIONS, LIMITATIONS, RECOMMENDATIONS & CONCLUSION

This chapter deals with summary, implications, limitations, recommendations and conclusion. The essence of any research project is based on study findings, limitations, interpretation, of the research results and recommendations to incorporate the study implications. It also gives meaning to the results obtained in the study.

6.1 SUMMARY

The main aim of the study was to assess the effectiveness of Vidatak EZ board on anxiety and frustration among mechanically ventilated patients.

Objectives of the Study

- To assess the pre test and post test level of anxiety and frustration among mechanically ventilated patients in both experimental and control group.
- To determine the effectiveness of Vidatak EZ board in reducing anxiety and frustration among mechanically ventilated patients in experimental group.
- To find out the association between post test level of anxiety and frustration and the selected demographic variables of mechanically ventilated patients in experimental group.
- To find out the correlation between the post test level of anxiety and frustration among mechanically ventilated patients in experimental group.

HYPOTHESIS

The study was attempted to examine the following hypothesis.

H_1 : There is a significant difference in the post test level of anxiety among mechanically ventilated patients in experimental group and control group.

H_2 : There is a significant difference in the post test level of frustration among mechanically ventilated patients in experimental and control group.

H_3 : There is a significant association between post test level of anxiety and the selected demographic variables of mechanically ventilated patients in experimental group.

H_4 : There is a significant association between the post test level of frustration and the selected demographic variables of mechanically ventilated patients in experimental group.

H_5 : There is a significant correlation between the post test level of anxiety and frustration among mechanically ventilated patients in experimental group.

The review of the related literature helped the investigator to develop the conceptual framework and the methodology of the study. Review of literature was done and arranged as follows, Studies related to the consequences of ineffective communication among mechanically ventilated patients, Studies related to the effectiveness of communication board among mechanically ventilated patients, Studies related to anxiety among mechanically ventilated patients.

The conceptual framework adopted for this study was developed by the investigator based on Imogene M.King's theory of goal attainment.

The research design adopted for the study was Quasi experimental non randomized control group design and the setting chosen to conduct the study was Ganga hospital, Coimbatore.

The target population in the study was mechanically ventilated patients aged between 21-60 years. Totally 60 patients were screened. Information's regarding demographic profiles were collected. Anxiety was measured by State trait anxiety scale and frustration was measured by Frustration scale. In this study the sample size was 40. Out of 40, 20 were placed in experimental group and the remaining 20 were placed in control group. Purposive sampling technique was used to select the samples.

The investigator formulated the Structured Knowledge Questionnaire to collect the information regarding background factors. Anxiety was measured by semi structured interview schedule and frustration was measured by observation method. The content validity of the tool was established by 5 experts. The reliability of the tool was done by test retest method and found to be r = 0.8 for anxiety and r = 0.9 for frustration. The tool was found to be reliable.

Pilot study was conducted in Ganga hospital, Coimbatore in the month of May and the main study was conducted in Ganga hospital in the month of June. The participants fulfilled the sampling criteria were included in the study. The data gathered and analyzed by using descriptive and inferential statistics manually. Interpretation was made on the basis of the objectives of the study.

6.2 IMPLICATIONS

The main aim of the study was to assess the effectiveness of Vidatak EZ communication board to reduce frustration among extubated patients after mechanical ventilation admitted in Ganga Hospital, Coimbatore. The following conclusions were drawn on the basis of findings of the study:

- Vidatak EZ communication board was proved to be effective method in reducing anxiety and frustration among extubated patients after mechanical ventilation.
- Majority of the participants had severe anxiety and frustration in the control group whereas the intensity of anxiety and frustration was very less in the experimental group.

Nursing Implications

The findings of the study have implications on the field of nursing education, nursing practice, nursing administration and nursing research.

Nursing practice

- Vidatak EZ communication board can be used to all the clients after extubation to reduce the frustration instead of using the routine technique as it is proved that it was effective in reducing anxiety and frustration in the studies done recently.
- Organize the Structured teaching program in the health care setting to educate the health care providers about the effectiveness of Vidatak EZ communication board.
- Encourage the senior nurses to be a role model for the junior nurses and student nurses by adapting evidence based practice in the health care setting while communicating with the clients who were on mechanical ventilation.

Nursing education

- The nurse educator have the responsibility to update the knowledge, attitude and practice of nursing students on knowledge and awareness about Vidatak EZ communication board.
- The findings of the study can serve as guidelines for the nurse educators for planning and conducting educational programs for student nurses regarding various communication methods.
- The nursing students should be made aware about their role in health promotion of ICU patients on mechanical ventilation.
- The students should be motivated to make up innovational approaches to provide comfort and peace of mind during mechanical ventilation in health care settings.

Nursing research

- The study provides a baseline data for conducting other research studies.
- The study will be a motivation for the budding researchers to conduct similar studies in larger samples.
- The study will be a reference for the research scholars.
- Further research works can be conducted with each and every technique in practice used to reduce anxiety and frustration.

6.3 LIMITATIONS

- Sample size was 40. For the generalization of the results more samples were required.
- The study was limited to only one hospital.
- The study was limited to the experience of the researcher.
- Sometimes Gestures may be misinterpreting as anxiety and frustration.

6.4 RECOMMENDATIONS

On the basis of the findings of the study, the following recommendations have been made:

- A similar study can be replicated on a large sample to generalize the findings.
- A similar study can be conducted in the clients coming to various institutional settings such as government and private institutions.
- A study can be conducted among staff nurses to find differences in the knowledge level and practice regarding Vidatak EZ communication board.

PERSONAL EXPERIENCE

- The investigator gained lot of new information and experience throughout the study.
- The investigator didn't face much problems in selecting the sample. All the samples participated in the study, understood the purpose of the study and were very co-operative.
- Apart from that the investigator has found that doing this research was quite interesting and helpful.

6.5 CONCLUSION

Maintaining communication between nurses and patients is very much essential to give qualified nursing care especially in critical care areas. Anxiety and frustration occur as a result of ineffective communication. Many times it may deteriorate the physical and mental health of the patients. So communication board is the effective method to avoid all these devastating consequences. So I hope this study would be beneficial for the nurses who work in critical care area thus by increasing the standards of nursing.

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APPENDIX – I

Cherraan's College of Nursing
(Affiliated to the Tamilnadu Dr. M.G.R. Medical University, Chennai - 32)
(Approved by Indian Nursing Council, New Delhi and Tamilnadu Nurses and Midwifes Council, Chennai)

LETTER REQUESTING TO CONDUCT RESEARCH STUDY

From

The Principal

Cherraan's college of nursing

Coimbatore

To

The medical officer

Ganga hospital

Coimbatore

Respected Sir/Madam,

SUB: Requesting permission for project.

This is to certify that Mrs. Margret is a Bonafide student of our college doing M.Sc Nursing-Second year. As a part of her research requirement under The Tamil Nadu Dr.MGR medical university, Chennai.She has to do project on "**EFFECTIVENESS OF VIDATAK EZ BOARD ON ANXIETY AND FRUSTRATION AMONG MECHANICALLY VENTILATED PATIENTS IN SELECTED HOSPITAL AT COIMBATORE".**

Kindly permit her to carry out the study in your hospital.

Thanking you

Yours faithfully

PRINCIPAL
CHERRAAN'S COLLEGE OF NURSING
521-A, SIRUVANI MAIN ROAD
TELUNGUPALAYAM PIRIVU
COIMBATORE - 641 039
PH: 0422-2341066, 2346194

New No. 521, Perur Main Road, Telungupalayam Pirivu, Coimbatore - 641 039
Ph : 0422 - 2344766, 2346194, Fax : 0422-2341066,
Web Site : www.cheranhealthscience.org, E-mail : cihs2002@yahoo.co.in

APPENDIX - II

LETTER REQUESTING SUGGESTION FOR ESTABLISHING CONTENT VALIDITY

From

Reg. No: 301410251
II year M.Sc. Nursing,
Cherraan's College of Nursing,
Coimbatore.

To

Through

The Principal,
Cherraan's College of Nursing,
Coimbatore.

Respected Sir/Madam,

Sub: Letter requesting opinion and suggestions from experts or establishing content validity of tool - regarding.

I am II nd year M.Sc. Nursing student in Cheerran's College of Nursing. As a partial fulfillment of Masters Degree in Nursing, I have selected the topic mentioned below for the research project to be submitted to "The Tamil Nadu Dr. M.G.R. Medical University, Chennai". **Topic: "A study to assess the effectiveness of Vidatak EZ board on anxiety and frustration among mechanically ventilated patients in a Ganga hospital, Coimbatore".**

I kindly request you to validate the following enclosure and give your expert opinion and suggestions for necessary modifications of the tool.

Thanking you in Anticipation

Place : **Yours Sincerely,**

Date : 301410251.

Enclosed here with: 1. Proposal, 2. Tool.

APPENDIX – III

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the content of Reg. No 301410251 M.sc Nursing student is undertaking **"A study to assess the effectiveness of VidatakEZ - board on anxiety and frustration among mechanically ventilated patients in Ganga hospital, Coimbatore."**

Signature of the Expert : M.M

Name : Mrs. MANIMEGALAI.M

Designation : PROFESSOR

Date : 14.08.16

APPENDIX - IV

Cherraan's College of Nursing

(Affiliated to the Tamilnadu Dr. M.G.R. Medical University, Chennai - 32)

(Approved by Indian Nursing Council, New Delhi and Tamilnadu Nurses and Midwifes Council, Chennai)

19.07.2016

LETTER REQUESTING TO CONDUCT RESEARCH STUDY Date :

From

The Principal

Cherraan's college of nursing

Coimbatore

To

The medical officer

Ganga hospital

Coimbatore

Respected Sir/Madam,

SUB: Requesting permission for project.

This is to certify that Mrs. Margret is a Bonafide student of our college doing M.Sc Nursing-Second year. As a part of her research requirement under The Tamil Nadu Dr.MGR medical university, Chennai.She has to do project on "**EFFECTIVENESS OF VIDATAK EZ BOARD ON ANXIETY AND FRUSTRATION AMONG MECHANICALLY VENTILATED PATIENTS IN SELECTED HOSPITAL AT COIMBATORE".**

Kindly permit her to carry out the study in your hospital.

Thanking you

Yours faithfully

Dr. P. KRISHNANANDA
M.B.B.S., M.B.A.
REGN. No. 73395
MEDICAL ADMINISTRATIVE OFFICER

PRINCIPAL
CHERRAAN'S COLLEGE OF NURSING
521-A, SIRUVANI MAIN ROAD
TELUNGUPALAYAM PIRIVU
COIMBATORE - 641 039
PH: 0422-2341066, 2346194

New No. 521, Perur Main Road, Telungupalayam Pirivu, Coimbatore - 641 039
Ph : 0422 - 2344766, 2346194, Fax : 0422-2341066,
Web Site : www.cheranhealthscience.org, E-mail : cihs2002@yahoo.co.in

APPENDIX - V

LIST OF EXPERTS

1. Dr. V.M. Balasubramani. MD,FRCA,
Consultant
Anaesthesiology & Intensive Care
Reg. No: 53991

2. Dr. P. KRISHNANANDA
MEDICAL ADMINISTRATIVE OFFICER
GANGA MEDICAL CENTRE & HOSPITAL S (P) LTD.
313, METTUPALAYAM ROAD,
COIMBATORE - 641 043.

3. ICU INCHARGE

4. A. Maheswari
250; KAMARAJ ST
PULIYAKULAM
COIMBATORE

JAYESH. P.J
PUTHENMBRI (H)
MALEGAMANGALAM (PO)
THIRUVILWAMALA
THRISSUR, KERALA
680588.

APPENDIX - VI

INFORMED CONSENT FORM

CONSENT FORM FOR PARTICIPATION IN RESEARCH

I ---------- give my consent to participate in the research title "**A study to assess the effectiveness of Vidatak EZ board on anxiety and frustration among ventilated patients in a Ganga hospital, Coimbatore "** which is being conducted by Reg. No 301410251 M.Sc.(N), Cherraan's College of Nursing, Coimbatore, as a part of her curriculum. I understand that this participant is entirely voluntary, I can withdraw consent at any time. I have understood that

1) The reason for the research is to assess the effectiveness of Vidatak EZ communication board among mechanically ventilated patients.

2) The benefits that mechanically ventilated patients may expect from the research is alleviating frustration during mechanical ventilation.

3) No discomfort or stresses are foreseen.

4) No invocatory procedure are involved.

5) The results of the participants will be confidential.

6) The researcher will answer any further questions about the research.

Name and signature of Researcher **Name and signature of participant**

APPENDIX - VII

SECTION I - DEMOGRAPHIC DATA

1) Age of the patient

- 21 - 30 years
- 31 - 40 years
- 41 - 50 years
- Above 50

2) Sex

- Male
- Female

3) Religion

- Hindu
- Muslim
- Christian
- Others

4) Residential area

- Rural
- Urban

5) Marital status

- Single
- Married
- Separated
- Divorcee
- Widow/ Widower

6) Education

- High school
- Graduate
- Post graduate
- Doctorate

7) Occupation

- Employed
- Unemployed

8) Total duration of intubation

- Less than One week
- One week
- More than one week

9) Days after extubation

- First day
- Second day
- Third day
- Fourth day

SECTION II: State trait anxiety scale

PART - I

SI.no	STATEMENTS	Not at all	Some what	Moderate	Very much
1.	I feel tense				
2.	I fell strained				
3.	I feel upset				
4.	I am presently worrying over possible misfortunes				
5.	I feel frightened				
6.	I feel nervous				
7.	I feel indecisive				
8.	I feel worried				
9.	I feel confused				
10.	I feel steady				

Scores:

Not at all - 4, Some what - 3, Moderate - 2, Very much - 1

Part – II

Sl.No	STATEMENTS	Almost never	Some times	Often	Almost always
11.	I feel nervous and restless				
12.	I feel like a failure				
13.	I feel that difficulties are piling up so that I cannot overcome them.				
14.	I worry too much over something that really doesn't matter				
15.	I lack self confidence				
16.	I feel inadequate				
17.	Some unimportant thought runs through my mind and bothers me				
18.	I take disappointments so keeply that I can not put them out of mind				
19.	I have steady mind				
20.	I get in a state of tension or turmoil as I think over my recent concerns and interests.				

Scores:

Almost never - 4, Sometimes - 3, Often - 2, Almost always - 1

Maximum score - 80, Minimum score - 20.

நீங்கள் பொதுவாக எப்படி உணருகிறீர்கள் என்பதை சரியான பொருத்தமான

வ எண்	தன் பகுப்பாய்வு வினாக்கள்	இல்லவே இல்லை	சில நேரங்களில்	அடிக்கடி	எப்பொழுதும் அதிகமாக
1	நான் பதைப்பதைப்பாகவும், களைப்பாகவும் இருப்பதாக உணர்கிறேன்.				
2	நான் தோல்வி அடைவதாக உணர்கிறேன்.				
3	என்னுடைய கஷ்டங்கள் அதிகரித்துக் கொண்டு இருப்பதால் நான் அவற்றைத் தீர்க்க முடியாமல் இருக்கிறேன்.				
4	நான் உண்மையாவே முக்கியமில்லாத சிலவற்றைப் பற்றி மிகவும் அதிகமாக கவலைப்படுகிறேன்				
5	நான் எனக்குத் தன்னம்பிக்கை இல்லை				
6	நான் தேவையற்றை அளவு ஆற்றல் இல்லாததாக உணர்கிறேன்				
7	என் மனதில் சில முக்கியமில்லாத சிந்தனைகள் ஓடி என்னை வருத்துகின்றன.				
8	ஏமாற்றங்களை எனது மனதிலிருந்து தள்ள முடியாத அளவுக்கு அவற்றைப் பெரிதாக எடுத்துக் கொள்கிறேன்.				
9	நான் நிலையான மனநிலையில் உள்ளவர்.				
10	சமீபத்தில் எனது விருப்பங்களையும் தொடர்புகளையும் நினைத்துப் பார்க்கும் போது நான் ஒருவித விறைப்பு நிலையையோ அல்லது குழப்ப நிலையையோ அடைகிறேன்.				

மதிப்பெண் **:**

இல்லவே இல்லை – 4, சில நேரங்களில் -3, அடிக்கடி - 2, எப்பொழுதும் அதிகமாக –

1. அதிக பட்சம் - 80 , குறைந்த பட்சம் - 20 பகுதி -ஆ

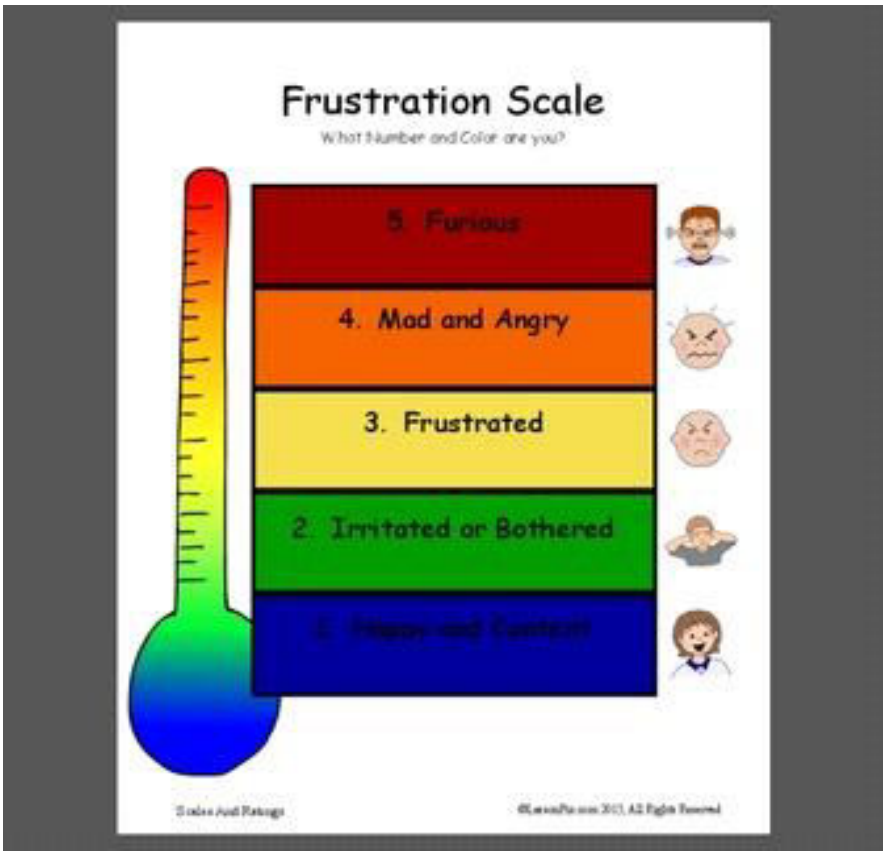
வ எண்	தன் பகுப்பாய்வு வினாக்கள்	இல்லவே இல்லை	சில நேரங்களில்	அடிக்கடி	எப்பொழுதும் அதிகமாக
11	நான் விறைப்பை நிலையில் இருக்கிறேன்.				
12	நான் சோர்வுற்ற நிலையில் இருப்பதாக உணர்கிறேன்.				
13	நான் நிலைகுலைந்து இருப்பதாக உணர்கிறேன்.				
14	நான் இனிவரும் துரதிஷ்டங்களுக்காகத் தற்போது கவலைப்பட்டுக் கொண்டிருக்கிறேன்.				
15	நான் பயந்த நிலையில் இருப்பதாக உணர்கிறேன்.				
16	நான் பதைப்பதைப்பில் இருப்பதாக உணர்கிறேன்.				
17	நான் எந்த தீர்மானமும் எடுக்க இயலாத நிலையில் இருப்பதாக உணர்கிறேன்.				
18	நான் கவலையாக இருப்பதாக உணர்கிறேன்.				
19	நான் குழப்பமான இருப்பதாக உணர்கிறேன்.				
20	நான் சம நிலையில் இருப்பதாக உணர்கிறேன்.				

மதிப்பெண் :

இல்லவே இல்லை – 4, சில நேரங்களில் -3, அடிக்கடி - 2, எப்பொழுதும் அதிகமாக – 1. அதிக பட்சம் - 80 , குறைந்த பட்சம் - 20.

PART - II: Self structured frustration scale

The frustration scale was prepared by the investigator to assess the level of frustration among participants. Frustration was measured by simple observation method. The score was given as follows.



SCORING

Score	Level of frustration
4 - 5	Severe
3	Moderate
2	Mild
1	No frustration

APPENDIX - VIII

IMAGE OF AN VIDATAK EZ BOARD

விடாடெக் தகவல் பலகை

- எனக்கு மூச்சிரைப்பு இருக்கிறது
- நான் விரக்தியாய் இருக்கிறேன்.
- நான் பதட்டமாக இருக்கிறேன்.
- நான் ஏமாற்றமாக உணர்கிறேன்
- நான் களைப்பாக இருக்கிறேன்
- நான் அயர்வாக இருக்கிறேன்
- நான் சிறப்பாக இருக்கிறேன்
- நான் உறுதியற்று இருக்கிறேன்
- நான் சூடாக இருக்கிறேன்.
- நான் படுக்க வேண்டும்.
- எனக்கு பனிக்கட்டி வேண்டும்.
- எனக்கு ஷாம்பூ வேண்டும்
- எனக்கு சீப்பு வேண்டும்
- எனக்கு சிறுநீர் கழிக்கும் உபகரணம் வேண்டும்
- எனக்கு அழைப்பு மணி வேண்டும்
- எனக்கு தொலைக்காட்சி வேண்டும்
- எனக்கு இடதுபக்கம் திரும்ப வேண்டும்
- நான் தூங்க வேண்டும்
- எனக்கு வலிக்கிறது
- நான் உட்கார வேண்டும்
- எனக்கு தண்ணீர் வேண்டும்
- நான் குளிக்க வேண்டும்
- எனக்கு மூக்கு கண்ணாடி வேண்டும்
- எனக்கு சாக்ஸ் வேண்டும்
- நான் ∴போன் பண்ண வேண்டும்
- நான் வலது பக்கம் திரும்ப வேண்டும்
- விளக்கை அணிக்கவும்
- எனக்கு ஆறுதல் வேண்டும்
- எனக்கு பிரார்த்தனை பண்ண வேண்டும்
- எனக்கு உடற்பயிற்சி செய்ய வேண்டும்
- எனக்கு பாடி லோஷன் வேண்டும்
- எனக்கு மசாஜ் பண்ணிவிடவும்
- எனக்கு மலம் கழிக்கும் உபகரணம் வேண்டும்
- எனக்கு தலையணை வேண்டும்
- விளக்கை போடவும்
- எனக்கு போர்வை வேண்டும்
- எனக்கு ஓய்வெடுக்க வேண்டும்

நான் பார்க்க விரும்புவது:

1. மருத்துவரை
2. செவிலியரை
3. சமூக சேவகரை
4. சுவாச சிகிச்சை நிபுணரை
5. உதவியாளரை
6. என் குடும்பத்தாரை
7. உடல் சிகிச்சை நிபுணரை

எனக்கு சுத்தம் செய்ய வேண்டியது

1. வாய்
2. மூக்கு
3. பல்
4. கை
5. முகம்
6. முடி